

THE SCHOOL REVIEW

Volume LXVI Autumn 1958 Number 3

BRUNO BETTELHEIM

University of Chicago

Segregation: New Style

First there was Little Rock. Then came Sputnik. First there was excitement about equal schooling for all children regardless of race. Then came anxious demands for special schooling for gifted children.

To the casual observer, the disorders at Central High School in Little Rock and the worry about Russian scientific progress may seem totally unrelated. Public concern with school desegregation and the education of the gifted may seem completely unconnected. Persistent headlines on both issues may seem to be the product of pure chance or the unfathomable vagaries of history. But is something more than chance or caprice at work here? The possibility is worth entertaining. Let us think back to that memorable autumn of 1957.

Sputnik was in the sky. There was no denying that an earth satellite was whirling through space. Russian advances in science and

BRUNO BETTELHEIM is principal of the Sonia Shankman Orthogenic School and a professor in the Departments of Education, Psychology, and Psychiatry at the University of Chicago.

technology, long known to experts, now became a fact in the lives of many, and the fact roused vast anxiety. Millions across the country were shaken by the realization that we are not always the biggest, the best, and the first. We had, in fact, failed to be the first to send a dog circling around the earth. Something had to be done, and in a hurry. But what?

Suddenly education became everyone's concern. The cry for better schools made big headlines, bigger than those that had blazoned the news on Little Rock. Since the Russians beat us, we, in turn, must beat somebody. If we could not beat the Russians, we could always beat our educators. So the cry went up: Our educational system has failed us; it's all wrong. A reform must be instituted immediately. We must have more and better scientists; our schools must produce them, and right away. Neither the press nor the man on the street who so loudly made these demands could say exactly what scientific discoveries had to be made or how education could possibly arrange for them. But such minor questions were not permitted to confuse the issue. Whatever doubts were raised were immediately drowned out in an even louder clamor for changes in our schools. In the deluge of demands, many of which were contradictory, the demand for special provisions for the gifted was especially strong and widespread.

The broad interest in schools, segregation, and Sputnik is not accidental. The jokesters recognized a connection. It was Bob Hope, I think, who said, "Ike wanted the U.S. to send up a manned satellite, but Faubus wouldn't go." Simultaneous deep concern with several apparently unrelated problems usually bespeaks a close causal connection, especially when the problems arouse the same persons, as often happens with the issues of desegregation and the education of the gifted, which are discussed here. But there is other evidence for assuming an underlying connection.

It seems hardly necessary to mention the strong emotions that the issue of school desegregation arouses in both the North and the

South. The liberal North excitedly tells the South what ought to be done and when and how. The South just as vehemently insists that the North mind its own business and take a look at its big cities and genteel suburbs. The two sections of the country point at each other and taunt, "Look who's calling the kettle black!" In this controversy, it is difficult to say with much conviction who is kettle and who is pot.

Actually, the South seems to be moving—ever so reluctantly and not just occasionally in bad faith—from separate but equal (in theory) toward integration; while the white, liberal, middle-class North seems to adopt—heavens! not in theory but in actual practice—a move toward a school situation that can best be described as separate and unequal. The doubt-arousing "but" of the South seems to have become an accepted "and" in the North.

Behind the shouting and the newspaper demands that we stop the inequities of school segregation in the South are often hidden the facts of segregation in the North. There, the separation of nice white children from poor white and Negro children is accomplished by moving to the suburbs or by sending children to private or parochial schools.

Families that are heading for the suburbs take pains to explain that the schools there are better. Besides, in the suburbs, the children can associate with more desirable boys and girls. And in the strictly or predominantly white suburbs, the children are also supposed to enjoy better cultural opportunities. Historically, of course, cultural advantages have been an asset of urban, not rural, life. Strangely enough, many who flee to the suburbs no longer equate cultural opportunities with the city, where cultural facilities are accessible. Instead, cultural advantages are equated with suburban lawns and trees.

But better schools or better playmates are only rarely the reason for moving to the suburbs. And the desire for more culture is surely never the reason for moving to a suburban address. The real reason for the flight to the suburbs is the desire to live in geographical and

cultural separation from Negroes and other members of minority groups who are deemed undesirable and, most of all, the wish to protect one's own children from having to attend school with children from "undesirable" homes. Suburban real estate developers, who are aware of these desires, usually make the school system their main selling point. And, sure enough, once the children are beyond school age, many suburban families move back to the city, exactly because commuting is a bother and because in town free social intercourse and cultural advantages are much more accessible.

A move to the suburbs is not the only way by which middle-class parents try to avoid sending their children to the integrated schools that many of these very parents advocate in theory. Another sign of parents' widespread desire to protect their own children against the dangers of integration is the increased enrolment in private schools. But expensive private schools hardly begin to meet the demand. Therefore, as segregated public schools are abolished by law, we see an astonishing growth in parochial schools.

Today, for the first time in America, there is widespread interest in Jewish parochial schools where the Jewish child is not likely to encounter Negro children. There is also much serious talk about creating new Protestant parochial schools. We even find religious organizations asking for contributions from state funds to support their parochial schools that are, or will be, virtually free of Negroes. Officially these same organizations, or some of their members, are vigorously opposed to segregation and to Southern plans for abolishing the public schools and for substituting education through contributions from public funds to private schools.

How does Sputnik enter into this picture? It was the feeling of defeat that Sputnik aroused that set off insistent demands, first, for more and better scientists and, second, for special provisions for the education of the gifted. The connection between integration in the schools and education of the gifted is intricate indeed. Speculation on one "if" in this chapter of recent history may be illuminating. If Russian scientific achievement had been generally known in Sep-

tember, 1957, would the highest official of the state of Arkansas have acted as he did during the violence at Little Rock? Would the rabble rousers' interference with orderly educational procedures have found even less support from the people and the officials? Perhaps when school desegregation and the education of the gifted are taken out of the realm of heated argument among partisans and the ill-informed, these issues have more in common than appears on the surface.

School integration is compulsory not simply because integration is a social and a moral obligation. School integration is required by a mandate of the Supreme Court because, in states where the schools are segregated, educational facilities for Negro children are, in the judgment of the Court, neither truly equal nor adequate. This, then, is the charge officially leveled against segregated schools: they do not offer the children who attend them an adequate education. Public demands for better education for the gifted child are based on exactly the same charge: educational facilities are not adequate—this time, not for the Negro, but for the gifted child. Here we have the common denominator: lack of adequate educational facilities.

If we view the great excitement about lack of desegregation, symbolized by Little Rock, and the education of the gifted, symbolized by Sputnik, as *post hoc, ergo propter hoc*, the developments of the past year become comprehensible. We want to see our schools integrated—so much so that we try to enforce integration by law. Our reason? We want to heighten literacy, step up academic achievement, and secure equal educational opportunities for all children. As schools are integrated, large numbers of boys and girls enrol who are less well educated than many other children of the same age. The newcomers have never before enjoyed equal educational opportunities. More important, their parents before them never enjoyed adequate opportunities for schooling. Integration means a better chance for good education for the new arrivals. But integration also means a lower over-all average in academic achievement. The general decline, it is hoped, will be temporary. But at the moment we

face a paradox: a step that was taken to raise academic achievement, threatens, temporarily and perhaps permanently, the educational opportunities of the gifted.

Meanwhile, the not-so-cold war prompts demands for greater intellectual and scientific achievement. The answer to the dilemma seems to be to create special educational opportunities for the gifted. Thus, we have demands for higher average achievement through equal educational opportunities for everyone, on the one hand, and demands for special educational facilities for gifted children, on the other.

The argument sets off echoes of the Orwellian pigs who believed that all animals are equal but that some are more equal than others. *Animal Farm* can be translated to apply to the American educational reality of today. Many of the very people who insist that all men are equal, and hence fight against segregation based on race, claim just as heatedly that some are more equal, and hence demand a different type of schooling for the gifted.

Part of the liberal intelligentsia is in the vanguard of the fight for both desegregation and special facilities for the gifted. Thus the conflict takes on the ominous features of a battle in which one side fights for special opportunities for its own—the intelligent—and for equal opportunities for the rest of the population. Or, closer to fact, these liberal intellectuals agree that the special educational privileges of the white over the Negro should be eliminated but insist that special educational opportunities—and with them, privileges—should be created for the intellectual elite.

Perhaps the picture we draw is exaggerated. Perhaps plans for the education of the gifted do not imply a new, separate, and unequal educational system. Keeping this possibility in mind, let us examine what is being proposed for the education of the gifted.

Since last fall, to use only one example, the ideas of a prominent educator, Professor Paul Woodring, have been receiving wide public attention. First *Life* magazine, on September 2, 1957, devoted a big

spread to his plan for revising the school system. Then his book, *A Fourth of a Nation*, was widely discussed. On February 21, 1958, an editorial in *Science*, the official organ of the American Association for the Advancement of Science, the largest American association of scientists, mentioned the "widespread attention" accorded Woodring's plan for a new educational system as set forth in his book and in the *Life* article.

In this article, entitled "Reform Plan for Schools," Woodring suggests that students be separated into three groups: A, B, and C, for bright, average, and below-average students, respectively. The last group would prepare for unskilled occupations, and the schooling of these students would end at age sixteen or seventeen. Students in the average group would be prepared for skilled trades or clerical work and would remain in school until about age eighteen. The bright students would be equipped for, and expected to enter, universities and professional graduate schools. Professor Woodring says nothing to indicate that students would not receive common schooling in the elementary grades. The division would begin in high school.

Now the interesting point about this article is not so much Professor Woodring's plan, as I have outlined it, but how *Life* magazine understood, or misunderstood, it. At the head of the article appears an eye-catching, half-page chart. Though this chart does not entirely tally with the text, the diagram reflects what an educated *Life* illustrator who has studied the article believes it should convey to an interested, educated audience. It is remarkable that such an erudite organ as *Science* did not take exception to this chart in the official commendation of the article. The chart must have been seen and passed on by the editors, if not necessarily by the author. Thus, the chart, which goes beyond the quiet reasoning of Dr. Woodring's article, may or may not reflect his convictions, but the illustration does tell a great deal about current attitudes and expectations of some of the educated who clamor for special educational facilities for the gifted child.

On this chart we see that the new system will consist not of elementary school and high school, but of primary school, elementary school, and high school. Only the primary school, consisting of kindergarten and first grade, will be identical for all children.

Already in elementary school the three groups of children are acquiring a different language. According to the chart, the children's vocabulary starts branching off in separate directions, not in high school, but in elementary school, where boys and girls acquire their basic vocabulary. The parting of company, linguistically speaking, comes early, when the children are seven years old, as if to make sure that they will not be able to converse with one another later on.

The point is demonstrated in each group. In the below-average group, the one bound for unskilled labor, pupils say "big horse." To express the same concept, pupils in the middle group say "large horse." Possibly, to the illustrator who prepared the chart, to the editors who approved of it, and to the author of the article and the millions of readers who took no exception to the illustration, it is a mark of higher intelligence to use a five-letter word when a three-letter one will do, but this reader fails to detect a significant distinction between "big" and "large." Let's move on to the college-preparatory, or gifted, group. These nine-year-olds (mid-age for this group) are remarkable. They say, not "big horse," not "large horse," but "magnificent steed." I leave it to the imagination of my readers what a nine-year-old who uses such language is like—or for that matter what any person is like who prefers "magnificent steed" to "big horse."

On page 129, a photograph showing what appear to be nine-year-olds is captioned: "Reading groups study separately in Bay City, Michigan classroom, a principle Dr. Woodring says should be generally adopted." If "magnificent steeds" are the outcome of special classes, one can only conclude that this help for the gifted is designed to teach an artificial language, the only value of which is to set these children off from the rest of the population.

Perhaps I am leaping to conclusions when I claim that the pur-

pose of such a school system is as much to set off an intellectual elite as to secure more scientific talent—a talent that no school system known so far has either succeeded in creating or suppressing. Witness those great technologists who had little formal or good schooling in their childhood or the geniuses who flunked out of school. So let's re-examine the chart.

For some reason the gifted, who are headed for the university, and the least gifted, who are destined for the ranks of unskilled labor, are represented by boys, while the middle group is represented by girls. It would have been quite possible to have boys and girls in each group, since each one includes four or five figures. I do not wish to draw conclusions from the fact that the female sex is restricted to the middle group, while the most intelligent and the least intelligent are reserved for the boys. Since only girls represent the middle group, we cannot compare it with the two other groups in dress or general appearance. But we can compare the appearance and the attire of the boys in the highest and the lowest groups.

We mentioned earlier that in Woodring's plan "primary" and "elementary" refer to separate schools. Suppose we assume, as we may, that the clothes that a child, particularly a boy in the primary or the elementary school, wears to school are a reflection not of his intelligence but of the economic and social background of his parents. If we make this assumption, the implications of the chart are clear.

The third group is represented by poorly dressed and poorly groomed youngsters. They are also depicted as confused or stupid-looking, but their facial expressions are beside the point, since the boys are supposed to be in the least intelligent group. From the very beginning of his school career the poor learner is shown as disheveled, with unkempt hair, wearing a sloppy shirt. The gifted boy, who is destined for college or university, is nicely combed and neatly dressed. In the elementary school, again according to the drawings, the non-gifted wears a sweater and is again unkempt, while the gifted elementary-school boy wears a tie and a jacket. In high school we see our young scholar sporting a bow tie and an elegant jacket,

and he has also acquired spectacles. Spectacles are to be found only in this group; obviously good eyesight is a sign of lower intelligence, and neat dress in eight-year-old boys is a sign of superior intellectual abilities. In high school, the future unskilled laborer wears a sweat-shirt, no jacket, no bow tie.

In these drawings, home finances and culture, as represented by dress and grooming, are a decisive index of who will go to college. The well-dressed son of middle-class parents will, even in elementary school, not only dress differently, but also speak a language so different from that of the future unskilled laborer that the two may not be able to talk readily to each other, even if they should want to. For what "magnificent steed" breeding we are asked to subscribe here, both on a conscious and subconscious level, I shall not try to analyze further.

The chart points to nothing new. On the contrary, educationally speaking, the design is old hat. The school systems of most European countries were designed to perpetuate the prevailing class system despite free public education. At a relatively early age the majority of school children were separated from the supposedly gifted children. Actually, the gifted were the children whose parents could give them social, economic, and cultural advantages. The German system is a prime example, but even in the German primary schools all children were given the same educational opportunities until about the age of ten.

A good case could be made in support of the proposition that our government and social system are far more democratic than they would be without public schools that, in theory, give all children identical educational experiences during the first twelve years of school. In this country, the separation of those who are going on to higher education usually takes place when the students are about eighteen years old, after personality has had a chance to develop. True, there are dropouts from about ninth grade on, but dropouts are not significant in separating our population into groups of dif-

ferent education. The sharp division in this respect is still between the college and the non-college population, and that break separates grown persons.

The younger the child, the more his school achievement and his attitude toward school and learning reflect parental attitudes and home background. In the early grades the child is strictly the product of his home, for the school has barely begun to exercise its full influence. It is usually only in senior high school that the young adult can free himself sufficiently from handicaps in his home background to give full play to his native talents. If children are grouped before high school, instead of equalizing differences in home background, the school will only add to them the agony of intellectual differences.

Early grouping would discriminate against the Negro child, but it would also discriminate against all children who do not come from "nice" homes. We can see the effects of early discrimination in a study by the Educational Testing Service of Princeton. The purpose of the study, which was reported in *Newsweek* for September 2, 1957, was to determine the relative academic achievement of school children in Atlanta. A survey of students in fourth, sixth, and twelfth grades disclosed that the average fourth-grade Negro student was scholastically 1.6 years behind the average white fourth-grader, while the Negro twelfth-grader was four years behind his white classmate. If grouping were generally to begin at second grade, the average white student would have an incomparably greater chance to be placed in the superior group than would the bright Negro child, not to mention the average Negro student—not because of superior native endowment, but because of the difference in home background.

If we are serious about giving a child a fair chance to succeed academically, even when he comes from a home that does not support his educational efforts, we have to provide excellent teachers who can offset deficiencies in home background. In many of our city school systems, lip service at least is given to the idea that the best teachers should be assigned to the students who are most difficult

to teach, that is, those who are falling behind. Yet in the *Life* article, Professor Woodring makes the point that in high school "it will be essential that the teachers of Group A (the gifted) be selected for their superior scholarship and intelligence." Under his plan, the best teachers would teach the children who are the easiest to teach. While his article makes no outright statement, it seems to follow that the poorest teachers will have the children who are most difficult to teach.

Discriminatory as Professor Woodring's proposal is, it is not so revolutionary as it may seem. Several large high-school systems already have an A, B, and even a C grouping. Students in the first group prepare for college under an accelerated program. Students in the last group prepare for work in the trades. Some of our most famous high schools have not three but five programs labeled A, B, C, X, and XX. A number of large cities have worked out other solutions. New York has its high schools for children who show special talents, for example, the High School of Music and Art and the Bronx High School for Science. Philadelphia has its Central High School; and Boston, its Latin high schools. But most of these school systems give all children the same break up to seventh or ninth grade. Children from deprived homes are allowed about seven years of equal educational opportunities, however uneven the equipment these boys and girls bring to school.

But again, why all this fuss about the gifted child? Have these so-called gifted children been winding up in coal mines? Have so few of them managed to enter Harvard, Yale, the University of Chicago, or the City College of the City of New York? Has the present system completely failed them? Do gifted children suddenly find that there is no longer a place for them in the universities? Are there suddenly fewer scholarships for them? Are our colleges unwilling to accept them before the age of eighteen, even though they are ready for college?

The answer to all these questions is "no," although many who are

concerned with the gifted child would answer "yes." Gifted youngsters still enter college and graduate; every year scholarships and fellowships go begging for want of takers; several great universities are ready to accept youngsters at an early age if they show promise. Having for years been connected with the University of Chicago, where strenuous efforts were made to attract not only the gifted but to have them enter college early, I recall only too well that this plan had to be modified simply because not enough students were interested in moving ahead fast academically, and for good reasons.

Again we are back to the question: Why have college-educated groups, particularly liberal groups, become interested in the two problems of segregation and the gifted at precisely the same time? I am unwilling to believe that Russia calls the shots to the point of forcing interest upon us.

Again, it seems that behind the conscious concern for the gifted is an unconscious desire to create a segregation based on intellect. Only by trying to secure special advantages for their children can the intelligentsia continue to fight publicly for desegregation on the racial level. Today many of the intelligentsia can advocate desegregation of the public schools because their children, the "gifted" children, are already segregated out of the integrated schools. These children are attending special classes for gifted children in public schools. Or they are attending private schools. Or they are attending schools in the suburbs. These children already enjoy all the benefits of their particular brand of segregation.

True, a few Negro children may be found in special classes for gifted boys and girls, and some Negroes now attend private schools and accelerated classes in our public schools. But these classes and schools are predominantly white, and as likely as not they will remain so for some time. Yet even this issue is a relatively minor one. Our concern is not that some groups fighting against segregation and for special facilities for the gifted want to establish a new color line. The matter is not so simple as that.

What is at stake here is an entirely different issue. These enlight-

ened citizens do not wish to turn back the hands of the clock and create a new colored ghetto. On the contrary, they want to do away with the old-fashioned color line. They want to replace the white-color elite with an even more securely established and more up-to-date elite—the white-collar elite.

This intellectual elite will consist of highly educated persons of all colors. Their education and language, their manners and outlook on life will set them apart. They will live and think, act and interact in their own distinctive fashion, permanently separated from the rest of the population by educational rather than by social or racial barriers. The possibility that education might become an almost insurmountable class barrier is suggested by *Life's* interpretation of Woodring's plan.

Today, if a member of the intellectual elite becomes dissatisfied with his position, he can, temporarily or permanently, join the ranks of labor. There he can find intelligent companions who speak his language. According to *Life*, only the unintelligent and non-educated will become laborers. If so, they will be as unwilling and unable to accept a person who doesn't speak their language and who is vastly superior to them intellectually as this person will be to live and work with them. Nowadays an intelligent high-school graduate can easily take his place among laborers. And with some effort and application a high-school graduate who did not take a college preparatory course can enter college. The doors are open because of eight shared years in elementary school. Cancel the opportunity for shared school years, and the freedom to communicate is as seriously interfered with as is the freedom to move from one occupational group to another.

The system of separate groups works only too well. The younger the age at which the separation takes place, the more pernicious the effects. If we need evidence, we have only to note what happens when groups part in high school. In public high schools where special programs for the gifted are set up, the system makes for mutual alienation, whatever the label of the program. The student

in a special program studies hard to remain a "gifted" child. He will study even harder to make sure that he stays out of the "desegregated" classroom. It is remarkable what a powerful incentive the desegregated classroom is to hard work.

On the other hand, children in non-collegiate programs are marked as a lower breed. Surrounded by students who are not interested in acquiring an education, lacking companionship with students who want to learn, these children apply themselves even less than they would if there were good students in class with whom to identify. In order to achieve educationally, lower-class whites and Negroes need to be challenged and motivated by example. Grouping deprives these children of such stimulation. They are left behind as second-class citizens, educationally speaking. Denied stimulating companionship in school and given little support at home, these students find themselves in a predicament that they are poorly equipped to overcome. Dimly realizing the powerful odds against them, they soon, with few exceptions, succumb to hopelessness. Should children in the non-gifted group show outstanding leadership or ability, they are drawn away to join their intellectual peers in the gifted group, leaving the non-gifted group more impoverished than ever.

This picture is not a forecast but a reality of our day. The changes are happening now in many of our big city high schools. Divisiveness is kept within bounds only by the eight beginning years that all children share in school. Fortunately, separation in the early years is still viewed as undesirable. The ideal is still a common curriculum for all. If separation were scheduled early and came to be seen as desirable, the picture could change drastically.

The concern for gifted children arises partly from the desire to outstrip Russia in the race for superior technology. Critics complain that our curriculum does not do justice to these children. It is asserted that they are held back and possibly thwarted in their intellectual growth by learning situations that are designed for the average child. Held back from what? Do our public libraries no

longer lend serious reading matter to high-school students who want to study? Is it reasonable to assume that most gifted children learn only when they are pressed by the curriculum?

Some of the arguments are valid. But there are also other considerations. By giving the gifted child premiums for achievement, we may push him beyond what is good for him. We may encourage him to strain his abilities so that the end of his school career may find him intellectually exhausted by the too fast pace. Or he may suffer even more serious damage: he may seek as his only satisfaction in life success in intellectual competition, irrespective of the meaning or purpose of such achievement.

There can be little doubt that special classes for gifted children can help them to graduate earlier and take their place in life sooner. Still, to take these students out of the regular schoolroom may create serious problems for them and for society.

One argument for special classes for the gifted is often advanced. In regular classrooms, we are told, the gifted child becomes bored and loses interest in learning. It is worth noting that this complaint is made much more frequently by adults, parents or educators, than by students themselves. Still, it cannot be denied that some children at the top of their class complain of being bored in school. On the strength of these complaints, parents and educators conclude that special classes should be set up. The conclusion does not necessarily follow.

It can be argued that the school experience of most gifted children is marked by overlearning. It can be pointed out that the gifted child is often required to repeat tasks that he has already mastered. It can be asserted that these tasks are assigned not for his benefit but for the benefit of the slower learner. However, one point is sometimes neglected: it is quite possible that the gifted continue to surpass their agemates just because of the overlearning that is so loudly decried. This much-denounced overlearning helps produce the greater recall and the emotional ease in meeting intellectual tasks that are counted among the most valuable assets of the gifted.

But the issue of boredom cuts deeper. If the findings of the psychoanalytic investigation of feelings have any validity, we must give credence to what these studies reveal about boredom. Feelings of boredom arise as a defense against deep feelings of anxiety. To be bored, then, means to be anxious. The student who is bored by his studies is the student who, on his own, can take few constructive measures to manage his anxieties. Consequently he represses or denies them and must ask others, like his teachers, to keep him frantically busy, studying and competing intellectually so that he will not feel anxiety. The gifted child who is bored is an anxious youngster. To feed his neurotic defense mechanisms may serve some needs of society but to nourish his neurosis certainly does not help him as a human being.

Psychology, like nature, does not permit a vacuum. If study material does not hold the student's attention because he masters it quickly, the result is not necessarily boredom. Other intellectual interests can fill the unscheduled time, which need not be abhorred as a wasteful void. Not having to pay rapt attention to understand the point the teacher is making, the gifted student may have time to speculate on whether the teacher's point is worth making at all—a question he is far too busy to ponder in a highly accelerated program.

I have observed what happened to a number of gifted children who were taken out of a highly accelerated, highly competitive, private school and placed in a public high school of good academic standing where, by comparison, the work was so easy as to be "boring," according to the parents and the students themselves.

Close inspection revealed an interesting and worthwhile development in most of the transplanted youngsters. In the special school for the gifted these children showed little ability to use their own critical judgment. Instead, they relied heavily on their teachers' direction. In the slower-paced school, no longer having to worry about keeping up, these students began to reflect spontaneously on many problems, some of which were not in the school program. The

students acquired, again on their own, a much deeper appreciation of life, art, literature, and other human beings. No longer exhausted by meeting assigned learning tasks, these youngsters had energy to branch out, broaden their interests, and achieve a deeper understanding.

Another aspect of the same problem should not be overlooked. Because the gifted child learns easily, he acquires a feeling of security. Prolonged, rarely assailed security may be the best preparation for the courageous tackling of difficult intellectual problems. On the other hand, if the gifted child is put into a special class where learning is not easy for him, where he is only average among a group of extremely gifted youngsters, he may come to feel that he has only average abilities and may later lack the courage to work on difficult problems.

It has also been argued that to mix gifted and average children is undesirable because it creates anxiety in slower learners. Perhaps. But how do anxieties become manageable? Through working with others, through a friendly relationship with those whom we feel are superior—in this case, the faster learners in the classroom.

Suppose you were an inexperienced mountain-climber. Obviously you would prefer to have an experienced climber in your party. But you would also prefer climbers who have learned teamwork and with whom you get along well personally, because teamwork is all important on a climbing expedition. In mountain-climbing, the guides or experts usually distribute themselves among the beginners, who are placed in the center of the group. If the beginner has an expert before him and an expert behind him, if he is surrounded by people who have learned both the skill and the teamwork, the likelihood is great that he will learn quickly and well. However, if we put all the good climbers into one party and all the poor ones into another and expect all to make the perilous and difficult ascent to the summit of adult maturity, we virtually insure that our second group will fail miserably or perish altogether. If there is teamwork, we can afford to put those with poor skill among those with good

ability, and, as likely as not, all will succeed. In fact, here is the only way beginners will learn well, whether they are learning to climb mountains or to read.

It is hard to agree on what is the "best" education for the child. When the pursuit of this question reaches an impasse, the argument is often switched from what is best for the child to what is best for society. Today we are told that we need more scientists and more engineers to "survive." Therefore, we must speed the growth of young people who have the necessary talent. But should we prod them even if the price is their personal happiness? Can we take the responsibility for deciding which talents should be encouraged? Are we wise enough for such decisions?

When Einstein was a young man, his generation was told that German society needed more soldiers and officers for its survival. Would Western society really have benefited if Einstein had been persuaded to become an army officer? Maybe he would have made his special contribution anyway. And, again, maybe not.

Do we really know what we shall need thirty years hence to survive? Can science guarantee survival? Might we not need—more than science—fresh, imaginative ideas on how to organize a world-wide society? Might we not need—more than technicians and physicists—men of broad social vision? And since ideas mature slowly, maybe what we need is not a speeding up but a slowing down of our all-too-fast pace. Maybe what our children need most are long vacations for reading and thinking, not long sessions at delivering papers or mowing lawns. Maybe the greatest contribution we can make to the health and security of our young is to assure them free time to play and grow. Maybe now is the time to turn this corner in our thinking and clear the clutter and busyness from children's lives. Maybe now is the time to cut down on camp activities and competitive sports and to open more free periods for long, long thoughts.

Recently a prominent educator decried our neglect of the average student, thus adding one more group to the roster of neglected chil-

dren. Our educational system seems to have neglected the slow learner, the gifted students, and the average child. Probably our dilemma stems from the hope that our schools would bring about the social and political millennium. Naturally they did not, and the hard fact has brought brooding misgivings of failure. Perhaps we shall be wise to revise our expectations. Maybe the solution is a school that, without assuring the millennium and without striving to do the very best for all children all of the time, helps the average child and the gifted child by helping the slow learner. (The result might be that they all will then live in a better society.) I have stressed the importance of a common school experience for all children, until high school at least, and preferably later. I would like to go further.

At present, we collect all children at the ripe age of five or six and, with rare exceptions, drop them into one and the same school situation. We carefully follow this routine even though children's home background and past experiences vary so greatly as to skew school experience. We hope that by high school the socially handicapped children will catch up with the others. Why don't we change this practice? Why don't we take steps to help the children who come from homes that do not prepare the child to make the best use of classroom learning. Let's take these children and prepare them for school. If we devote a year or two to this job, we might speed up the slow, slow learners before they fall behind their classmates. Or, to put the task in another way, let's take two years to win over the children who come to school doubting that the classroom is a good place for them. Let's encourage their desire to learn. Let's teach these five-year-olds the manners, the attitudes, the ability to sit still and concentrate that are necessary to make the best use of the teacher and the school. We would have to use our very best teachers for this difficult task. The classes would have to be very small. But we would help our slow learners, with the exception of those whose mental equipment is way below par, to turn into at least average, if

not fast, learners. At about seven years of age the children could start school together with a better chance for all.

It follows that our newcomers to the big cities—whether from Puerto Rico, the Ozarks, or the Deep South—should be given the benefit of two years of the very best teaching, at whatever age the new arrivals enrol in school. They should have this preparation before they are introduced into the mainstream of our educational system.

Professor Dunkel, writing of the slow and the gifted, in the February, 1958, issue of the *Elementary School Journal*, used the analogy of an army's attitude toward the wounded:

Even a retreating army, in a situation where social and moral considerations are at a minimum, devotes much of its transport to the care of the wounded. Strategically, combat infantry should be the ones to ride since the possibility of a turn in the tide of battle depends on them. But they can slog through the mud and hence are asked to do so, while the wounded, who are of no immediate military utility, ride. Our schools tended to act in the same way, especially as they became conscious of how many "wounded" they had—the socially, physically, emotionally, and mentally handicapped. We can only hope that our present concern for the gifted does not stem from the ugly motive of regarding them chiefly as combat troops in a cold war.

I would like to add that more than humanitarian considerations motivate an army. It also tends its wounded because it hopes that one day they will rejoin the combatants. And an army that deserted its wounded and let the hale and hearty ride away would give its soldiers the feeling that maybe their nation was not worth fighting for. The better we take care of our potentially wounded in the schools, the better off we all shall be.

I am not suggesting that we dismiss our concern for the gifted, that we leave well enough alone. On the contrary, our schools can and must be improved. I am simply saying that arguments for the special education of gifted children do not yet rest on scientifically solid grounds, any more than do arguments to the contrary. At the moment arguments on both sides are largely emotional, whereas they ought to be reasoned. What we need now is not quick remedies but

carefully balanced and controlled experiments, based on hard thinking and planning.

If we the educated feel that, with an end to racial segregation and with the pressure of a cold war, a new elite needs to be created through an educational caste system, then we should not betray the essence of our calling, which is intellectual honesty. Let us be frank about our intentions and state them openly. If we do so, it will be easier to recognize that efforts are afoot to create a new class of schoolmen, a new scholasticism, based not on Aristotle, but on the theory of relatively or what not. Recognition of the similarity of such a caste system, based on intellectual gifts and educational achievements, to that of Mandarin China might exercise a sobering influence. Would a society based on such a system do well in competition with rival social systems? Would it help us in our pursuit of happiness? After pondering these questions, we might decide that maybe a special school system for gifted children is not so desirable after all.

WILLIAM F. BRAZZIEL, JR.
Southern University, Baton Rouge, Louisiana

Portrait of a Young Migrant

In New Orleans, it's the week after spring graduation from high school. All week long Union Central Station has been the setting of a sweeping exodus of young people. Today the crack train, "City of New Orleans," is making up for the long run north. Early in the hot, humid morning little knots of Negroes make their way out of the Jim Crow waiting room and move slowly toward the gleaming Jim Crow coaches.

Look closely at one of the groups. Standing silently in the center of the cluster, amidst soft murmurs of admonition and advice for the journey, is a newly graduated adolescent, gingerly clutching the box of lunch pressed upon him.

In ordinary times this youth would not have hurried away from home a few days after winning his diploma. But these are not ordinary times. His moratorium cut sharply by the exigencies of the day, the young graduate is leaving the South promptly to make his way in a strange, new land, far from the comforting confines of his parish. After a final round of farewells, he boards the train and in a few minutes the cars roll slowly out of the station, launching the youthful traveler on the first lap of a long, long journey.

As the train moves north, the scene of departure is repeated many times. Little clumps of kinfolk gather and silently dispatch their young and just as silently make their way back to the land, to the canebrakes near New Orleans, the strawberry plains near Hammond, the pulpwood forests near Natchez, and the cotton fields near Vicksburg and Memphis.

WILLIAM F. BRAZZIEL, JR., is an associate professor of education at Southern University, Baton Rouge, Louisiana.

The little clusters of families quietly return from wherever the long train stops to a land that no longer needs the manual labor that those who live here have been trained to offer. The burden of migration from the South falls on the adolescent. The elders of the clan prefer to stay with the land until the rewards of that life no longer surpass its tribulations.

Negroes have always migrated north and west from the South. After World War I and during World War II, the migration was a heavy flow. Today the flow has grown to a tide. Those who move with it are not leaving entirely by choice. Many go because they have no alternative. With the advent of mechanization, the hand-writing appeared on the wall. The cotton-chopper, the cotton-picker, the cane-planter, the cane-harvester, and the chain timber saw—all these mechanical workers are now on duty in the South. They came, and the Negro laborer and the sharecropper must go.

The graduate settles back in his coach seat and watches old sights rush past him and disappear. Each spin of the wheels takes him closer to a new life. The days ahead will test him in many ways. In his new life, he must compete in vocations that he has only a vague and cursory knowledge of, if indeed he knows of them at all. He must maintain values in teeming, overcrowded cities far from his childhood home in the rural South. And he must master the fears, the misgivings, and the loneliness that assail the emigré who lacks the steady influence of family and long-time friends.

What preparation has the young graduate had for his new life? What kind of schools did he attend?

Perhaps he attended first grade in one of the bright, new elementary schools nestled in the canebrakes of southwestern Louisiana. On the right side of the overcrowded classroom sat the advanced group—the sons and daughters of small landowners, of foremen and semiskilled laborers in the sugar refineries, of craftsmen in the building trades, of ministers, railroad workers, and teachers in the local schools. The well-scrubbed appearance of these children, their neat clothing, and their regular attendance were rewarded by proud and

doting teachers, who beamed on the boys and girls with autocratic maternalism.

The same beaming maternalism was not forthcoming to the sons and daughters of the canefield workers—the retarded group, who always, whatever the lesson, sat on the left. Many children on the left had been kept out of school during the cane harvest and had to repeat first grade. Already old and afraid in a world they did not create, for six hours a day they lived with constant reminders of their station in life, desperately unfortunate children in a lush yet desolate land.

The teacher who taught these children—the children on the right and the children on the left—was herself a product of the bayous, a recruit from a lower- or middle-class family. Having arrived, perhaps with a sigh of relief, at middle-class status, which is a reward for teachers in Negro society, she divorced herself, without delay, from the distasteful heritage that was hers. She probably looked with continuing dislike on each vestige of that heritage that came to her attention, never fully understanding the impact of her feelings and actions on the highly impressionable children before her.

Helpful or hurtful, that elementary-school classroom in the canebrakes had an influence on the children who reported there, an influence that was not to be shaken off easily. In that classroom with its sharply divided groups on the right and on the left, the children learned that school is a friendly place—or a menacing place; that society is to be trusted—or mistrusted. The lessons learned in the little world of the school in the canebrakes became part of the heritage of every boy and girl who attended, a heritage shared, in all likelihood, by the young man who boarded the north-bound train in New Orleans. What did the young traveler learn in high school that will help him earn a livelihood in his new life?

Probably very little. In the South, curriculums in high schools for Negroes seldom face the facts of existence. Vocational agriculture and home economics offer little help to young people who are forced, by social and economic hardship, to migrate. Such training may serve some students exceedingly well. It has almost no value for the

youthful migrant who must make his way in an industrial society. Uncertain of the demands of such a society, uncertain of the conflicting inner urges to question the authority that relegates him to impractical training, the Negro adolescent is afraid.

What other lessons does the youth on the north-bound coach take with him, lessons that he learned at home?

For many of these young travelers, home is a harsh, paternalistic autocracy where children are conditioned to blind acceptance of authority. The Negro adolescent in rural areas learns early in life to accept the role of docility in the name of respect. If he does not really accept that role, he learns to act as if he did. Meanwhile, he endures constant inner turbulence. Docility is one demand parents insist upon. His elders also instill in the adolescent inhibitions associated with rigid values. No matter that society does not always honor those values. He is expected to uphold them regardless. Torn between what he is drawn to do and what he is directed to do, his personality suffers the consequences of frustration.

In all likelihood, the young man's parents explained to him the principles and the unhappy history of segregation. In the past, Negro parents who accepted the covenant of segregation as an inescapable fact conditioned their children to this practice through fear. Usually in late childhood, just before puberty, the children were taught that for safety's sake they must pay certain homages and forego certain privileges of democracy. Parents could cite more than a few examples of violence to give point to their assertions. Once the child grasped this teaching, he lived and died with little more discussion on the matter.

The young traveler may have lived in one of the many middle-class communities in the South where Negroes seldom come in contact with white people, even today. Children in these families are usually sheltered as much as possible until adolescence. Parents feel no pressing need to coach their sons and daughters in "manners" for meeting or working with white people, since the children will probably never work directly for whites or meet their children socially.

Because these families live the greater part of their lives on the cultural island that is the Negro community, free discussion on segregation is possible. And because middle-class parents are generally beset with fewer fears and misgivings than are most lower-class parents, discussion can be fairly objective.

In the past, safety was a key word in coaching children in a code of conduct. Today, the old code is under review. Segregation is seen as an unsolved problem of a virile and growing land. With large numbers of Negroes moving away from the South, thoughtful parents are aware that a compromise between safety and changing perspectives must be achieved. Middle-class families are recognizing that the Negro adolescent must be prepared for enlightened citizenship.

The youth on the train moving north takes with him lessons he learned at home and at school. Inextricably bound up with his hopes and doubts, thoughts and fears, these lessons have become part of his personality. They are the intangible resource on which he must draw in the uncertain days ahead. Already New Orleans is far away. He watches the scenery race past his window. By this time the train has reached the open spaces and is plunging on at full speed, hurrying him to a new life, giving him a taste of a new and faster tempo.

Will the personality of the young migrant be an asset in that new life? How will he respond to rebuffs and setbacks, to friendliness and hostility, to promises and disappointments, to chances and changes—to whatever the new life offers?

Personality, the sum total of an individual's approach to life, determines the heights to which his aspirations will rise and the depths to which his hopes will sink in the face of the frustrations of a hostile world. There is evidence that most Negro children in Southern schools develop personalities that are less than self-directive. To think critically, to make decisions—tendencies in this direction are driven from the child as if they were a breed of devils. Many adults believe that a "good" child is a submissive child. In today's complex society submissiveness is flimsy equipment for Negro youth.

In all probability, our young migrant, like many young people who board north-bound trains at New Orleans and at other centers of departure, is ill prepared for life in another part of the country. To make his way intelligently elsewhere, he and thousands of other boys and girls need help. Part of the task that faces thoughtful educators is to find ways of offering that help.

The problem is a large and growing one. Today about 40 per cent of the Negroes in this country live outside the South. It has been estimated that, since 1940, three million Negroes have left that region. According to a report in *Newsweek* for December 23, 1957, migrants now total about a hundred thousand a year.

What kind of preparation will help young people meet the challenge of migration?

The answer depends partly on their destination. The young graduate we have followed from Union Central Station in New Orleans will probably leave the train at some large city. Most migrants settle in large centers in the North and West, where life is highly competitive compared with the rural life these people have known. Young people from rural areas, who have never been exposed to competitive tasks in a technical society, are ill equipped for living in cities.

In any sound program for preparing young migrants, the development of personality will assume great importance. These young people will need drive and self-direction. In *Adolescent Character and Personality*, Robert J. Havighurst and Hilda Taba describe the self-directive personality as one characterized by ambition, persistence, orderliness, and introspection; one that gains security through achievement. Adolescents who are self-directive are able to make decisions and carry them out against odds. They are able to create a strong set of values and strive persistently toward their goals.

The antithesis of the self-directive personality is the submissive personality marked by timidity, docility, indecision, and malleability; in this personality, security is gained by submission to authority.

The change from submissiveness to self-direction is not an easy one. Between the two lies a painful and dangerous interval where doubt, defiance, sullenness, and tremendous insecurity prevail,

though for changes in personality, the adolescent years are perhaps the most fruitful of all.

One educational adage is disregarded in many schools attended by Negroes in the South today: the adage that the school should perform any task of total development that has been neglected by other community agencies. Among the responsibilities that our schools have seriously neglected is their responsibility, as a democratic institution, to instil democratic ideals.

The school that takes this responsibility seriously will provide Negro children with instruction on segregation. The teachers in that school will explain the history and principles of this practice. And the lessons will be presented in such a way that they will encourage a sense of mission and dedication. In approaching the subject, the wise teacher will also encourage a sense of personal dignity, a belief in equalitarianism, and a tentative acceptance of the principles of segregation for the sake of safety. Yet if democracy is to be served, the instruction should encourage the children to vow to wipe out the practice eventually. Here is a truly dangerous set of paradoxes for a child, a difficult and delicate enterprise for which the help of parents must be enlisted.

Like other children, Negro boys and girls need instruction that will enable them to understand themselves, the changes in their bodies, their aptitudes and interests; and, above all, they must understand the world of work. Studies have shown that the majority of these young people dream, if they dream at all, of professional status, an almost vain hope for many, since the number of professional people is very small. Handicapped at every turn, the young adolescent loses all hope of attaining this highly coveted status and refuses to dream at all of the more practical and attainable goals of skilled craftsmanship in technical fields. Consequently he has no dreams—no hope.

In a recent survey of three large high schools for Negroes in East Baton Rouge Parish, Louisiana, 70 per cent of the Seniors said that

they planned to prepare for teaching. In the study of two high schools in the more rural Bienville Parish, the total rose to 80 per cent. Interviews with sample groups revealed that many students had no real desire to teach and would have been unhappy preparing for, and working at, this profession. However, they knew of no other method of achieving middle-class status in the South and were not sure what preparation would be helpful vocationally elsewhere in the country. These schools had no formal guidance program, and little if any occupational information of any kind was available to the students. Not knowing where to turn vocationally, they were understandably fearful.

The school in the South cannot expect subject-matter curriculums alone to serve Negro students. The school that faces reality will assume a role in guidance, encourage realistic aspirations, and educate for migration.

In the end, the burden of any program to help prospective migrants must fall on the teacher. The responsibilities that must be assumed by teachers in schools for Negroes in the rural South are enormous.

The responsibility with first priority is a dedication to the mission to be performed. Many personal frustrations of Negro professionals in the South are compounded by a complete lack of a sense of mission. Can the Negro teacher divorce himself from his heritage? He may try, but if he is wise, he will embrace his heritage and accept as his mission the task of helping the children he teaches to a richer heritage than his. Sustained by this philosophy, he can better serve young people and safeguard his own mental health.

Colleges that prepare teachers for such service must be far more selective than evidence suggests they have been in the past. Classroom teachers of both races in the South are often appointed on the basis of local political influence. While the practice can hardly be condoned, it still exists. In a region so poor that state and federal funds provide a large part of the annual income of the people, even

the meager salary of a teacher assumes vast importance in the struggle for status and affluence.

The college that prepares teachers may have little direct influence on practices used in appointing teachers. But the college can and must control the standards of competence of the persons it certifies as professionals. Colleges can point up the need for a zealous approach to teaching. Colleges can channel into less crucial endeavors students who are not willing to pay the price of zeal.

But it takes more than zeal and dedication to make a teacher. In schools for Negroes in the South today, only candidates who are professionally competent can be effective. Teachers who are less than competent falter and bring frustration to themselves and their young charges.

The competent teacher knows how children grow and develop emotionally, physically, and intellectually. The competent teacher understands that the dimensions of growth are interrelated, and he works for full growth in all dimensions.

Most important of all, the competent Negro teacher understands, and is convinced of, the democratic mission of the school in the South. He recognizes that it is his responsibility to address himself to the seemingly impossible task of achieving democracy in the area closest to him—his classroom. Children learn what they live. Somewhere in a community of illiteracy, anarchy, and violence, children must be given the opportunity to live democratically. Unfortunately there are some communities where a democratic classroom may be the only oasis in a harsh and desolate land. Having once experienced democracy, on however small a scale, the Negro child may well refuse to settle in life for less.

The children of the South must have a new kind of preparation, a kind of educational heritage that many of the young people who rode out of Union Central Station in New Orleans last spring probably never had.

Report on Research in Education

in Soviet Russia

in West Germany

in French-speaking
Countries of Europe

Every morning all over the world teachers and children meet in classrooms, and the drama of teaching and learning unfolds. We have long known that the drama does not end when the children troop out of school at the end of the school day. What children learn in school goes out into the community and into the wider world.

Today, as this fact has dramatically impressed itself on our attention, interest in schools of other lands has been mounting. Welcoming this new and growing interest, the *School Review* is bringing its readers a special report on educational research abroad. The special feature, a series of three articles, was suggested by Philip W. Jackson, a member of the editorial board of the *School Review* and an assistant professor in the Department of Education at the University of Chicago. It was at his invitation that George W. Boguslavsky, Walter Schultze, and Fernand A. Hotyat wrote the articles presented here. To Roger A. Pillet of the University College goes our grateful acknowledgment for a careful translation of Fernand A. Hotyat's article from the French. To all five educators goes our warm appreciation for opening windows to understanding.

The Department of Education of the University of Chicago, in keeping with its traditional sensitivity to new needs, is responding to the quickened interest in education abroad. It is perhaps particularly appropriate, in this special issue on the work of our colleagues in other lands, to announce the Department's new Comparative Education Center. A description of the Center appears elsewhere in this issue.

GEORGE W. BOGUSLAVSKY

Rensselaer Polytechnic Institute

Educational Research in the Soviet Union

In November, 1957, the Academy of Educational Sciences of the Russian Soviet Federated Socialist Republic met in extraordinary session in Moscow. An assembly of more than a thousand delegates heard forty-five reports on past achievements, current problems, and future aspirations of Soviet education. The speakers highlighted outstanding accomplishments in education—the transition from 76 per cent illiteracy to total literacy in a span of forty years, the existence of compulsory seven-year schooling, the rapid progress made since 1952 in introducing compulsory ten-year polytechnical training, and the success of experiments combining education and productive labor.

The president of the Academy, I. A. Kairov, set the tone of the conference in his opening remarks: "We are proud of our successes, but we are far from the thought of conceit or complacency with these achievements. We know our shortcomings." Kairov went on to say: "We do not doubt that teachers, workers for public enlightenment, and those engaged in educational science will give all their strength, intelligence, will, and heart to overcome these shortcomings and to bring up our youth as active builders of communism" (7).

The accomplishments of the Soviet educational system are indeed impressive. In 1952 the Nineteenth Congress of the Communist

GEORGE W. BOGUSLAVSKY is professor of psychology at Rensselaer Polytechnic Institute, Troy, New York. This article is based on "Psychological Research in Soviet Education," an article by the author, which appeared in *Science* for May, 1957. Parts of that article are reproduced here with the permission of the editor of *Science*.

Party decided on compulsory ten-year schooling. Since that year the number of students graduating from the tenth grade has more than tripled. In the larger cities the conversion was all but complete in 1954, and by 1960 universal ten-year education is expected to be an accomplished fact throughout the Union (5, 15).

This vast expansion of the educational system is being carried out with no apparent detriment to the curriculum or to academic standards. The curriculum, which has remained fairly stable for the past twenty-five years, includes five years of physics, four years of chemistry, six years of natural science, and mathematics through trigonometry.

Contrary to the opinion of some Western observers, the stress on physical and natural sciences has not been accompanied by neglect of the humanities. In fact, during the ten-year course, about half the instructional time is devoted to history, logic, psychology, art, languages, and literature (11). The official attitude toward the humanities was stated by Kairov at the 1957 conference:

Realization of polytechnical training must not lead to minimizing of the role and the significance of humanitarian disciplines in the school. On the contrary, their significance is increased, because solution of the problem of polytechnical training is unthinkable without an all-round development of the student's personality [7].

The most significant innovation in the curriculum is practical work in factories and on farms. This new feature, first tried out experimentally in 580 schools during 1956-57, was prompted by concern over the widespread reluctance among school graduates to engage in manual work. Under the plan, which varied from school to school, children in the upper grades spent three hours a week in neighborhood plants. The students operated lathes, electric drills, testing machines, and other industrial equipment. The work was adapted to the normal production of the plant, and every student was supervised individually by a skilled employee. In addition, an effort was made to integrate the practical work with studies. For example, students who were working on electroplating were given special assignments in chemistry. These assignments included sketching of

the movements of electrolytes, qualitative analysis of precipitates, and listing of by-products.

The results of the experiment were considered successful enough to extend the plan. In 1957-58 it was in effect in one-fourth of all the schools in the Union. One school reported that, by the end of the year, over half of its participating students had earned journeyman certificates; many students had definite plans for their future trade, and some were already studying practical automation. Another experimental venture introduced in fifty schools in 1957-58 permits the extension of the curriculum to eleven or twelve years. As a result, children in the upper grades may spend up to half their time in practical work without loss to their studies (17, 22).

For a clear view of educational trends in the Soviet Union it is first necessary to eliminate a bit of confusion that has found its way into English translations and reports. The source of confusion is the indiscriminate use of the term *education* as the English equivalent for two semantically distinct concepts known in Russian as *vospitaniie* and *obrazovaniie*.

The term *vospitaniie* is used by the Russians in a broad sense and in a narrow sense. In its broad sense the term includes academic instruction as well as the development of moral characteristics and a system of values. The broad usage, however, is relatively rare and is ordinarily identified by a note added to the text. The more common usage is the narrow one, referring solely to training in the values and the ethics of the culture. For the sake of clarity, *vospitaniie* will be translated here as *ideological training*. The term *obrazovaniie* refers exclusively to instruction in classroom subjects and will be translated as *academic training*.

The distinction is important because the two types of training involve different methods. The principal medium for ideological training is the youth organization known as Young Pioneers. Since the activities of this group take place after school hours, the teacher is free to devote his time and energy to academic training.

At a 1957 conference on ideological training, sponsored by the

Institute of Theory and History of Education, it was revealed that ideological training has no consistent program, few qualified instructors, and little pertinent literature. The separation of academic and ideological training has been criticized, yet no one at the conference could suggest a way of co-ordinating the two. Moreover, many delegates voiced objections to the possibility that any future program should be binding on the schools (9).

In contrast, academic training is governed by a well-defined set of rules. This phase of Soviet education has an established program, which is supported by a large body of research and enjoys a great deal of prestige and authority. In 1957 the Ministry of Enlightenment singled out seven people for special honors, and all seven were cited for their contribution to academic progress (19). In a recent exhortation for better ideological training, the editor of *Sovietskaya Pedagogika* carefully avoided mention of any method that might infringe on the time and effort given to academic instruction (20). The respect for learning is evident in Lenin's comments recently quoted by the *Moscow University Journal*. Criticizing those who would reject the academic accomplishments of capitalist nations, Lenin labeled the attitude as "leftist infantilism" and "communitic conceit of dilettantes and bureaucrats." Lenin wrote, "We must take all science and technology, all knowledge and art. . . . Do not be stingy about paying for science. One does not resent the price when learning is pursued sensibly" (18).

The development of academic programs is under the jurisdiction of the Ministries of Enlightenment of the constituent republics of the Soviet Union. Formerly known as Commissariats, these bodies are sharply limited in the range of independent decision by the directives of the Central Committee of the Communist Party. The most powerful Ministry is that of the Russian Republic or, to use its full name, the Russian Soviet Federated Socialist Republic. Although the decisions of the Ministry are not binding on other republics, they

are generally imitated throughout the Union. In addition, the Russian Republic has a unique institution called the Academy of Educational Sciences. This institution, founded in 1943, is described as a body of distinguished scientists intrusted with jurisdiction over nine research institutes concerned with problems of education (10).

One restriction on the academic program stems from the communist tenet that individual intelligence is not predetermined by heredity or by "some unalterable milieu." According to an authoritative definition, intelligence is merely "a well-organized system of knowledge" (16:78).

In line with this position, the Central Committee of the Communist Party, in its 1936 directive, prohibited separation of students on the basis of tests, ordered the return of the majority of retarded children to regular classes, and abolished the post of child psychologist in primary and secondary schools. The target of the Committee's criticism was not the field of child psychology but specialists who "abused" principles of child psychology by "pseudo-scientific" method of mental tests. In the Committee's opinion such specialists interfered in academic matters and deprived the teacher of prestige and a sense of responsibility. The directive further stated that all future child guidance was to be done by teachers selected on the basis of proven teaching ability.

In a parallel decision, the Council of Commissars of the Russian Soviet Federated Socialist Republic in 1937 ordered that standard teaching practices be restored in the so-called exemplary and experimental schools for gifted children and that the academic criteria in ordinary schools be raised to the level at which these exemplary schools operated (1:95-101).

Responsibility for school failures is thus placed directly on the teacher. It has been emphasized repeatedly that all students have the capacity for successful academic performance and that expectation of a certain percentage of failures is untenable (6). Moreover, the criteria for success are the absolute academic standards set forth in the 1944 directive of the Commissar for Enlightenment of the

Russian Soviet Federated Socialist Republic (1:174-76). Should any pupil fail to satisfy these standards, the failure is attributed to the negligence or incompetence of the teacher and to the laxity of those intrusted with research on teaching methods.

In depriving the teacher of excuses for student failures, the directive of the Central Committee precipitated a flurry of investigations on teaching methods. Sporadic at first, these investigations ultimately developed into a co-ordinated program centered at the Scientific Research Institute for Psychology, a component of the Academy of Educational Sciences. An interesting feature of this research program is its avowed adherence to the theoretical framework of I. P. Pavlov, in accordance with recommendations made in 1950 by the joint session of the Academies of Sciences and Medical Sciences (12).

Though Pavlov is generally identified with experiments on salivary conditioning, some of the inferences of his work are broad enough to be applicable to other forms of behavior, including classroom learning. Moreover, Soviet psychologists are sufficiently well aware of the work done abroad to modify and enlarge on the original Pavlovian concepts.

One concept which has been prominent in Russian psychological theory for many years is that of the orienting reflex. In Pavlov's original description of the phenomenon, he said: "If in the surroundings of the animal there appears some new agent . . . then the corresponding receptor surfaces of the organism become focused on it, in a manner which will bring about the most favorable stimulation" (14).

According to evidence gathered in Russian psychological laboratories, the orienting reaction is indispensable for learning. Whatever is to be learned—a fact, a concept, or a skill—must completely engage the learner's attention. If the learner orients elsewhere, no amount of training will be effective. These observations have led to significant deductions and experiments in teaching methods. It is deduced,

for instance, that visual aids are useless if irrelevant details happen to capture the child's attention. Such distraction apparently is not uncommon in first-grade arithmetic, where toys and blocks are used as aids in addition and subtraction. One important step in teaching arithmetic is to teach the child to recognize that terms like *bought*, *came*, and *acquired* imply addition, whereas *lost*, *spent*, and *departed* imply subtraction. Success in teaching this distinction is in no way assured by the mere presence of concrete objects. In fact, children tend to orient to the shape or color of the objects and disregard the required operation.

However, the use of objects may be effective if the teacher uses them to illustrate the required arithmetical process. In a study demonstrating this principle the teacher read a problem aloud. As he read words like *came* and *bought*, he moved the blocks toward the child. As he read words like *sold* and *departed*, he moved the blocks away from the child. On subsequent tests the children who had seen this demonstration showed more progress than children in control groups, who had heard the same problems and manipulated the same blocks but had not seen the movement illustrating the process. The investigators wrote:

The use of visual aids in the teaching of arithmetic appears to be especially effective when illustration is made of those links of activity which are in the process of forming at the given moment. . . . If in the early stages we obtained better results in the understanding of new material with visual aids maximally representative of reality, at the higher stages we reached such results through the use of the more "stingy" illustrative materials which underlined and made prominent the essential link in the activity being mastered [4: 43-62].

Another study of visual aids was conducted in a class in botany. The students were supplied with real flowers and, after preliminary instruction, were told to practice identifying the calyx, the corolla, the stamens, and the pistil. Within the stamens they were to differentiate the filaments from the anthers, and in the pistil they were to point out the ovary, the style, and the stigma. In a comparable class the same procedure was followed with one exception: the teacher's preliminary instruction was accompanied by references not

to the flower itself but to an enlarged drawing of a flower, which showed the various organs.

In an examination of the results of these two approaches, it was found that the second group was markedly superior to the first, not only during practice, but also on subsequent tests with flowers that had not been used in the first demonstration. An explanation for the relatively poor performance of the first group is offered in the following quotation: "A natural object has immediate significance for the child; it elicits interest that has no direct relation to the organs of the flower. During immediate perception of the flower a teacher's words do not produce sufficient effect." On the other hand, the drawings interfere with the child's initial reaction to the flower and direct his attention to features that are pertinent to the lesson. In the final outcome, the "stamens and the pistil of a flower are no longer regarded as . . . merely interesting or pretty parts; they acquire their own special and important significance" (4: 201-11).

Orientation to non-essential features can also hamper progress in the more advanced courses on mathematics if the illustrative material is not selected judiciously. One investigator points out that many students have difficulty in recognizing a right triangle when the right angle is at the vertex. This difficulty is attributed to the fact that, in most textbooks, illustrations of right triangles are always drawn with the right angle at the base. Thus, orientation toward the critical feature is confused with orientation toward a particular location.

The point is demonstrated further in connection with the concept of diameter. A beginner in geometry was asked to draw a circle and inscribe a diameter. The student inscribed two diameters, one horizontal, the other vertical. His response led to the following dialogue:

TEACHER: How many diameters can be inscribed in a circle?

STUDENT: Two.

TEACHER: Aren't there any more diameters?

STUDENT: No, there aren't.

TEACHER: (*Draws a diameter at a 45-degree angle.*) What is this?

STUDENT: A diameter.

TEACHER: How many diameters are there?

STUDENT: Two more. Four in all.

TEACHER: (*Draws a diameter at a slight angle from the vertical.*) How many diameters are there?

STUDENT: Any number. I was wrong.

This misunderstanding is also ascribed to stereotyped diagrams, since most teachers, as well as textbook writers, illustrate the concept by drawing the diameter in a horizontal position. As a result, the irrelevant feature of position obscures the essence of the definition. It is suggested that such confusion may be avoided if the essential characteristic is illustrated in a variety of positions and contexts (4: 13-24).

The suggestion is indicative of the attitude of Soviet psychologists toward repetition in learning. The effect of sheer repetition in a constant environment is generally regarded as trivial, particularly when positive transfer is expected. On the other hand, repetition in a variable environment is held to be immensely effective.

The functional significance of orientation is not restricted to learning. The orienting reaction is assumed to be crucial in motivation also. In education, this assumption has served as the starting point of research on methods of arousing interest and motivation for the study of science.

Soviet psychologists are well aware that dull books are lethal to students' interests, and psychologists concede that books may be dull merely because the subject matter lacks the intrinsic quality of arousing curiosity. Dull books may, of course, be made more attractive by adding material that has so-called human interest appeal, but this recourse invariably generates the possibility that the extraneous material may become the principal focus of orientation to the detriment of the essential scientific topic.

As an illustration of such misdirection of interest, a Soviet psychologist singles out a proposed treatment of a scientific topic, submitted by a contributor to a popular book of geography. According to the psychologist, the topic—how to determine geographic loca-

tion—has little intrinsic appeal. To arouse interest, the contributor introduced his topic with several stories about explorers, adventurers, mountaineers, and fliers who all somehow manage to get lost. Each story ended with the question, "Where are we?" After this introduction, the author described steps in determining location.

The results of this attempt at popularization were sorry. After the children read the lesson, they were asked to state the main theme, to give the lesson a title, to point out the most interesting sections, and to suggest additions to the lesson. Most students recalled the adventures, discoveries, and heroic incidents described in the stories; only a few children were aware of the main geographic theme.

At this point the psychologist introduced three variations on the human-interest appeal. In the first, he presented a hero who was bound by duty and honor to discover the location. In the second, the hero's primary incentive was to discover certain mineral deposits. In the final variation, the hero's motives were of secondary importance, the stress being placed on the struggles and frustrations attending his attempts to find the location.

While the first two variations produced some improvement in results, the effect of the final variation was in startling contrast to that of the original contribution. For example, in pointing out the most interesting parts of the original story, only 5 per cent of the children mentioned the essential geographic topic—discovery of location. In the final variation, however, the figure rose to 88 per cent. The investigator concluded:

To arouse interest for scientific inquiry we must bring into the text a living, active man, and his living, searching, exploring thought in its historical development. . . . We should not present ready-made results of human thought and experience, but we should introduce the reader to the very process of investigation, gradually exposing the overcoming of difficulties and the search for the true method. Moreover, to evoke a pupil's interest precisely for the given scientific question, we must treat the search for an answer as the main goal of the hero's action, rather than as a means of reaching some other goal. The strife and survival of the hero must be developed around attainment of the given aim [4: 201-11].

The foregoing experiments illustrate the variety of studies generated by only one principle in Soviet psychology. There have, of course, been other points of departure, but space permits only a brief mention of them.

Several studies are derived from Pavlov's views on the intimate relation between language and thought. In discussing higher nervous activity, Pavlov postulated two distinct cortical processes, which he called the "cortical signaling systems." The first system, common to man and lower animals, is connected with immediate perception of environment. The second system is related to the development of speech; it is man's exclusive property and forms the basis of his ability to abstract and synthesize (8).

The role of language has been examined at several levels of intellectual development. With monotonous regularity the results confirm the importance of words in the forming of concepts. An experiment with two-year-old children, for example, shows that a visual demonstration of a simple skill is less effective than the same demonstration accompanied by a spoken word that names the movement involved in the skill (4: 124-37).

Another study, dealing with a more advanced level of development, shows the confusion generated by the conjunctions *if* and *when*. Because of their ambiguity, students find it difficult to differentiate between causal, temporal, and conditional relations introduced by these conjunctions. As an example, the investigator cites the sentence: "If the weather is good, we shall go to the country." The statement is purely conditional, yet students see a cause-effect relationship here. The study suggests that the subject of correct identification of relation be given special consideration in education (4: 62-71).

Several experiments have been devoted to the role of imagery in educational methodology. In Soviet psychology, imagery is defined as "a unique form of reflection of objective reality . . . an intervening link in learning about the world" (16: 29).

The use of imagery as a teaching technique is shown to be effective in the training of "intellectually passive" students—children who, by our standards, would probably be classified as "slow learners" or as "retarded." The investigator points out that, in teaching addition and subtraction to such children, there is very little transfer from the successful manipulation of block to mental operations. On the other hand, if the child doing mental arithmetic is urged to visualize the blocks and to describe his operations aloud, his mental performance can be brought up to the general level of the class after six or seven such sessions (4: 181-88).

Imagery has also been used in teaching first-grade children to abstract the main theme of a story. Usually children repeat the story in part or *in toto*. However, if they are asked to visualize a picture conveyed by the story and to provide a caption, the main theme becomes meaningful (4: 21).

A few psychologists have worked on the application of Pavlov's finding that differentiation between a positive and a negative stimulus is achieved most effectively when the two stimuli are interspersed during conditioning. The suggestion to teachers of mathematics is that addition and subtraction be taught at the same time (4: 60). Understanding is enhanced, they are told, if students are instructed to find the inverse of a function (4: 67). Even in the teaching of psychology, researchers have found that, for long-term retention of a psychological concept, it is not enough only to define the concept. The suggestion is offered that each such definition be accompanied by an active attempt to "criticize, reject, and overcome incorrect, unscientific treatment of the concept" (4: 89-100).

One conspicuous feature of Soviet research in education is a high degree of co-ordination. Every study is generated by some psychological principle. Attempts at mere correlations between methodology and success in examinations are practically unknown. In fact, the results of examinations are generally regarded as subordinate to the ultimate goals of long-term retention and transfer.

To Soviet psychologists the problems of educational methodology

are primarily problems of motivation and learning, perception and thought. Given this assumption, research in education becomes basic rather than applied, with the classroom serving as the laboratory.

This concentrated effort is the result, in part, of a commonly accepted premise, which some regard as untenable—an assumption that “different kinds of habits based on training, education and discipline of any sort are nothing but a long chain of conditioned reflexes” (13).

Whether or not one agrees with this formulation, it cannot be denied that knowledge is built on previous knowledge. It is highly probable that Soviet psychologists do not take the statement literally but regard it as a convenient approximation or a workable formula. Given this formula, it is inconceivable that a Soviet psychologist would undertake to improve high-school teaching without examining all the links in the chain, from kindergarten up. All academic failure is attributed not to lack of interest or ability but to missing links. Unless they are found and repaired, all further efforts at teaching are regarded as futile.

As Kairov said, Soviet teachers are far from complacent about their achievements. There is widespread concern over inadequacies in the molding of the “Soviet Man” whose qualities are “patriotism, internationalism, love of toil, and collectivism.” Suggestions for improvement include research on ideological training, more thorough preparation of youth leaders, and wider participation of youth organizations in community affairs. The entire program, however, is still under discussion (9).

Soviet schools are not free from discipline problems. Every child is expected to know the so-called Rules for Students—instructions on proper behavior in and out of the classroom. But teachers complain that some children abandon their customary politeness, accuracy, and neatness when they go on to a higher grade. Teachers are attempting to correct this flaunting of the Rules through group pressure exerted by the classroom *kollektiv*. The basis for the pressure is the new emphasis on “socialistic competition.” Under this

system of competition, a class is awarded merits, not only for its high standards, but also for the number of students who have contributed to raise the standards (2, 23).

The Research Institute for Defectology is concerned with the problem of diagnosing mentally retarded children. By definition, a child may be considered mentally retarded only if he has an organic impairment. In the current approach to diagnosis, evidence for impairment is sought on the behavioral as well as the physiological level. On the behavioral level, a child with presumed organic impairment is incapable of co-ordinating simple motor acts with verbal instructions. Physiologically, such a child is said to exhibit a distinctive brain-wave pattern as well as anomalous vascular reactions (3).

In academic instruction, discontent centers on the teaching of foreign languages. The six-year course is not considered long enough, nor is the quality of teaching regarded as uniformly satisfactory. Because of the admitted intent of the Soviet Union to expand its world contacts (21), this phase of education is now receiving a great deal of attention.

The year 1958 may be a turning point in Soviet education. The academic program is now stable enough to permit Soviet educators to embark on a massive effort in creating the Communist Man. What will emerge is a matter of conjecture.

REFERENCES

1. N. I. Boldyrev (editor), *Sbornik rukovodiashchikh materialov o shkole*. Moscow: Akademiia Pedagogicheskikh Nauk, 1952.
2. T. V. Bondareva, "Sotsialisticheskoe sorevnovaniie," *Sovietskaia Pedagogika*, XXII (January, 1958), 21-31.
3. A. I. Diachkov, "Razvitiie Sovetskoi defektologii za 40 let," *Sovietskaia Pedagogika*, XXII (February, 1958), 78-89.
4. *Doklady na sovieshchaniï po voprosam psikhologii*. Moscow: Akademiia Pedagogicheskikh Nauk, 1954.

5. *Engineering Education in the Soviet Union*, p. 19. Woking and London: Unwin Brothers Ltd., 1957.

6. N. K. Goncharov (editor), *Puti dostizheniia vysokoi uspevaemosti v shkole*, pp. 7-18. Moscow: Akademiia Pedagogicheskikh Nauk, 1954.

7. "Iubileinaia Sessia Akademii Pedagogicheskikh Nauk RSFSR," *Sovietskaia Pedagogika*, XXII (February, 1958), 146-52.

8. F. P. Maiorov, *Istoriia ucheniia ob uslovnykh refleksakh*, p. 258. Moscow: Akademiia Nauk, 1954.

9. I. S. Marienko, "Obsuzhdeniie materialov k programme vospitatelnoi raboty v shkole," *Sovietskaia pedagogika*, XXII (February, 1958), 155-60.

10. Ye. N. Medynskii. *Narodnoie obrazovanie v SSSR*, pp. 212-13. Moscow: Akademiia Pedagogicheskikh Nauk, 1952.

11. Ye. Medynsky. *Education in the U.S.S.R.*, pp. 23-26. London: Soviet News, 1950.

12. *Nauchnaia sessia posviashchennaia problemam fiziologicheskogo ucheniia akademika I. P. Pavlova*, p. 131. Moscow: Akademiia Nauk, 1950.

13. I. P. Pavlov. *Conditioned reflexes*, p. 395. New York: Oxford University Press, 1927.

14. I. P. Pavlov. *Lectures on conditioned reflexes*, p. 134. New York: International, 1928.

15. *Recent trends in Soviet schools*, p. 1. Intelligence Report No. 6685, unclassified. Washington: Department of State, September 10, 1954.

16. Iu. A. Samarin. *Ocherki po metodike prepodavaniia psikhologii v srednei shkole*. Moscow: Akademiia Pedagogicheskikh Nauk, 1950.

17. M. N. Skatkin. "O soedinenii obucheniia s proizvoditelnym trudom," *Sovietskaia Pedagogika*, XXII (February, 1958), 13-26.

18. I. S. Smirnov. "Lenin i Sovietskaia nauka," *Vestnik Moskovskogo Universiteta*, X (April-May, 1955), 11-27.

19. "V Ministerstve Prosveshcheniia RSFSR," *Sovietskaia Pedagogika*, XXII (February, 1958), 160.

20. "Vospityvat vsestoronne razvitykh stroitelei kommunizma," *Sovietskaia Pedagogika*, XXII (January, 1958), 3-9.

21. "Za korennoie uluchsheniie prepodavaniia inostrannykh iazykov," *Sovietskaia Pedagogika*, XXII (March, 1958), 3-10.

22. M. A. Zhidelev and V. P. Belousov, "Proizvodstvennaia praktika uchashchikhsia na mashinostroitel'nom predpriatii," *Sovietskaia Pedagogika*, XXII (February, 1958), 27-38.

23. A. V. Zosimovskii, "O preimstvennosti v rabote nad 'pravilami dlia uchashchichkhsia' v IV-V klassakh," *Sovietskaia Pedagogika*, XXII (February, 1958), 67-77.

WALTER SCHULTZE

*Higher Institute for International Educational Research
Frankfurt on the Main, Germany*

Educational Research in the Federal Republic of Germany

In September, 1957, the Second International Congress for Teaching Educational Sciences in Universities met in Florence, Italy. The theme chosen for the conference was "Organization of Experimentation in Education."

This meeting shed an interesting light on German research. In the cloister of the building where the sessions took place a poster listed the milestones of research in education. On this poster, the German contribution ended with the work of William Stern and Ernst Meumann, two scholars who were psychologists. The placard took no notice of research in Germany during the past thirty years, a period during which inquiry has been largely philosophical. Men like Fischer, Nohl, Spranger, Litt, and Flitner are obviously unknown abroad. Outside Germany, their contributions would no doubt be considered irrelevant, since problems of a philosophical and theoretical nature do not enjoy a wide hearing at present. Though the names of these scholars may not be recognized abroad, their ideas are determining what is taught in Germany universities today, for it is the disciples of these researchers who now have chairs in education.

Actually, the conference in Florence dwelt on educational research as it has developed in English- and French-speaking countries. From the outset, the German speaker found himself in a difficult position, since the main problems in German educational research do not coincide with research problems in these countries.

WALTER SCHULTZE is a professor at the Higher Institute for International Research in the Federal Republic of Germany.

Our speaker had little to report on research in the universities. He could report only on research in the schools. In Germany, research studies are launched almost exclusively by individual teachers and principals, by private schools, boards of education, or teachers associations. The universities do not assist in these inquiries. The universities merely observe the work of the schools and classify trends.

In fact, in Germany the experiment has almost no importance in educational research. The experimental method was given up some time ago, along with the concept of experimental education, which Meumann introduced. Since World War I, German education has gone its way apart from even psychological research. To meet the needs of whatever psychology is necessary in education, a special philosophical (*geisteswissenschaftliche*) psychology has developed. Studies in this field are kept separate from the usual psychological inquiry.

Sociological investigations have likewise played only a limited part in German education. The wide field of functional education was discovered in the early twenties, and basic questions were defined by Aloys Fischer of Munich. But problems of educational sociology have been left to the sociologists. Even today educators still cling to the historical and philosophical approach. They are not familiar with methods of the sociologist—field work, interviews, investigation, inquiry, and evaluation through statistical methods. To retain the "purity" of educational questioning there is a tendency to restrict inquiry to problems in intentional education. Otherwise, educators point out, it might be impossible to distinguish between education and sociology (1). Distinctions between education and biology and legal science are likewise studiously observed.

In this climate of thinking, education has developed independent of the empirical sciences. In fact, education has been thought of as a kind of art, and in general experimentation and the scientific approach are considered inappropriate for the arts. Researchers who feel that a psychological or sociological approach might be useful have found their work suspected of pragmatism or rejected as positivistic. As

might be expected, the gap between school life and education as a science has become more and more obvious.

Before World War I, teachers looked to educational science with great hope. They even built laboratories and centers for educational research. But the teachers soon found that the problems of scientific and theoretical education eluded their understanding. Educational studies seemed purely academic, and gradually teachers lost contact with this science.

But they did not lose interest in the study of school problems. Still eager to deepen their understanding of the problems that arose in school life, the teachers themselves carried on research. True, they lacked the time and the training for intensive investigation. In spite of these handicaps, however, many reports on studies by teachers have appeared in educational journals.

Fortunately, university educators remained aloof from *Nationalsozialismus* or National Socialism. Their aloofness led to an inclination to discuss harmless theoretical problems that had no connection with practical education. As a result, after World War II, German educators found themselves without a science of education that could help rebuild the German schools.

The exchange of teachers and scientists brought German education into close contact with developments abroad, but results of the exchanges varied. Often no understanding was possible, partly because of language difficulties, but especially because of professional differences. American education, regarded as pragmatic and positivistic, was often rejected because of its methods and its position on research. The scientific approach was dismissed as unsuited for coping with educational problems. Measurements and statistics were regarded as mechanistic and unapplicable to the "educational situation." Concessions were made only in less important questions in the field of *Tatsachenforschung* or the study of facts (13).

German teachers did put to use many practical suggestions that they brought back from their exchange visits, but German educators generally felt superior to the philosophical foundation of education

abroad. Sometimes they had only a smile for what was called a philosophy of education outside Germany. During the post-war period educators continued to cling to the historical and theoretical approach.

During the past few years, however, another point of view has gained prominence. The belief is growing that empirical research in education must be carried on. Georg Geissler, professor of education at the University of Hamburg, wrote: "Science that does not want to get lost in mere general wisdom and speculations requires a broad basis of empirical research work" (2). A late recognition which, up to now, has spread very little.

All German universities have chairs in education. All but one or two of these chairs are occupied by supporters of the historical and theoretical approach to education. In two universities chairs are linked with psychology. Germany has no chair at all in educational psychology. At all universities the subject is taught by temporary lecturers. Consequently, educational psychology plays an unimportant role in psychology and in education. Usually there is no communication, let alone co-operation, between the professor of education and the professor of psychology. In some universities, these professors even belong to different faculties. In preparing psychologists, the subject of guidance is included, but psychologists' major interests lie in other fields. School psychology is adequately sponsored at only one university.

West Germany has no faculty of education. The subject is taught in the faculty of arts (*Philosophische Fakultät*). Since only the University of Hamburg has more than one chair in education, specialization is difficult. At other universities, the professor of education is expected to teach not only the entire field of education but often philosophy or psychology as well.

Research is curtailed by highly practical considerations. The financial resources and material equipment of the institutes and seminars are modest. Because means are slender, expensive research projects,

follow-up studies, and field work are hardly ever carried on. Research is done mainly in the library. This theoretical and bookish investigation does not require large expenditures. Thus, empirical research is limited for financial as well as philosophical reasons.

But there are still other explanations. Two outstanding features mark German universities. One is the belief in the unity of research and teaching. Since enrolments are still mounting, professors are overburdened with lectures, seminars, and examinations. Crowded schedules leave less and less time for investigation. The fact is apparent in the publications, which rarely carry reports on research. Often books are only compilations of articles published in magazines.

Still, the professors oppose the establishment of separate institutes for research in the arts. When the Higher Institute for International Educational Research was founded in 1952 in Frankfort on the Main, the center was eyed most critically. It was generally believed that through this institute American educational research would be imported into Germany. It was felt, too, that the institute violated the cherished principle of the unity of research and teaching.

The second outstanding trait of the German university is intellectual freedom. In spite of developments within the universities curtailing academic freedom, the university—at least the faculty of arts—is still regarded as a center of free intellectual activity. The function of the university as a center for professional preparation is considered secondary. But today only a few subjects taught in the university do not aim directly at the professions. One of these is education. The only degree available is the doctorate, a purely academic degree. Therefore young people study subjects that qualify them for a profession, high-school teaching, for example. The professor of education gives lectures to these future teachers. However, the students study two or three subjects depending on what they expect to teach later on. They take education only as a supplement to their major subjects.

Since professors of education lecture mainly to future high-school

teachers, it is customary to nominate for a chair only candidates who have themselves taken the examinations for high-school teaching. Experience in teaching is not required, though a Doctor's degree is essential. In addition, candidates must pass a second examination called "habilitation." To qualify for this test, candidates must have at least enough Latin and Greek to teach in the faculty of arts. These strict requirements have produced a lack of "qualified" applicants, and some chairs are vacant. The shortage of candidates is intensified by lack of contact with professional life. This combination of reasons also accounts for the scant importance of education at the university. Those who major in education are usually teachers who, after several years in the classroom, return to the university for a Doctor's degree. Later they receive appointments as lecturers or professors at teachers colleges.

What problems in education are chosen as subjects of research? Tables 1 and 2 present a survey of research subjects selected for journal articles, dissertations, and examination papers. Table 1 shows the number of articles in various fields published during 1957 and during the first quarter of 1958. Eleven of sixteen research articles in the *Vierteljahresschrift für wissenschaftliche Pädagogik*, or the *Quarterly of Scientific Education*, deal with problems in the history and philosophy of education. In *Zeitschrift für Pädagogik*, or the *Journal of Education*, seven of fourteen research articles are in these fields. Contributors to both journals are professors in the forefront in education.

History and philosophy are often chosen as subjects of doctoral dissertations in education. Of these dissertations written at eight German universities since 1945, we find that 38.5 per cent were in history and philosophy of education. Dissertations in the history of education alone make up a strikingly high part of the total, 27.5 per cent.

A number of candidates chose problems in educational psychology

TABLE 1

FIELDS OF RESEARCH REPRESENTED BY ARTICLES IN FIVE GERMAN EDUCATIONAL PERIODICALS DURING 1957 AND THE FIRST QUARTER OF 1958

FIELD OF RESEARCH	QUARTER- LY OF SCIEN- TIFIC EDUCA- TION ¹	JOURNAL OF EDUCA- TION ²	Bildung und Erzie- hung ³	THE GER- MAN SCHOOL ⁴	WESTER- MANN'S EDUCA- TIONAL CONTRI- BUTIONS ⁵	TOTAL	
						Num- ber	Per Cent
History of education	3	3	6	1	..	13	9.0
Philosophy and theory of educa- tion	8	4	10	6	1	29	20.0
Comparative education	1	2	5	10	..	18	12.4
Educational psychology and an- thropology	1	2	4	3	1	11	7.6
Educational sociology	1	2	..	..	..	3	2.1
Legislation and administration ..	..	..	..	..	..	..	..
Education outside school . . . . .	..	..	1	3	1	5	3.4
Education in school:							
General problems (including school organization) . . . . .	..	..	8	14	3	25	17.2
Didactics and curriculum . . . .	..	..	..	1	1	2	1.4
Methods and subjects	1	1	11	14	8	35	24.1
Vocational education	1	..	..	3	..	4	2.8
Total	16	14	45	55	15	145	

1. Translation of *Vierteljahresschrift für wissenschaftliche Pädagogik*.

2. Translation of *Zeitschrift für Pädagogik*.

3. There is no precise English equivalent for this title. Taken together the words mean culture, education, upbringing.

4. Translation of *Die Deutsche Schule*.

5. Translation of *Westermann's Pädagogische Beiträge*.

TABLE 2

FIELDS OF RESEARCH IN EDUCATION REPRESENTED IN EXAMINATION PAPERS OF 1,000 ELEMENTARY-SCHOOL TEACHERS AT THE UNIVERSITY OF HAMBURG AND IN 109 DOCTORAL DISSERTATIONS AT EIGHT GERMAN UNIVERSITIES SINCE 1945

FIELD OF RESEARCH	TEACHERS' EXAMINA- TION PAPERS		DOCTORAL DIS- SERTATIONS	
	Number	Per Cent	Number	Per Cent
History of education	48	4.8	30	27.5
Philosophy and theory of education	29	2.9	12	11.0
Comparative education	28	2.8	6	5.5
Educational psychology and anthropology	84	8.4	12	11.0
Educational sociology, legislation, and admin- istration . . . . .	..	..	..	..
Education outside school	111	11.1	18	16.5
Education in school:				
General problems (including school organi- zation)	155	15.5	8	7.3
Didactics and curriculum	79	7.9	4	3.7
Methods and subjects	466	46.6	17	15.6
Vocational education . . . . .	..	..	..	..
Total	1,000		109	

or practical education, but it is by no means certain that the theses were based on empirical research. Probably only a small percentage were. Actually the table fails to give a true picture of educational psychology, since psychological dissertations on education in a broader sense are not included here.

We get a false picture, too, of the sociology of education. Since the war several voluminous books based on empirical research have been published. Most of these publications deal with post-war family life (3, 8, 9, 12). In addition to these basic studies, many shorter books and pamphlets have been published on the family in post-war Germany. Psychological and sociological studies are also being made of changes in today's youth. Wilhelm Roessler (6) has gathered an abundance of material from various sources to form a picture of young people, while Helmut Schelsky (7), in his latest publication, has used data from sociological and empirical research.

Several other publications also look at adolescence and its problems from the sociological point of view. Special stress is placed on acceleration, the facts of the problem as well as the consequences on education. Changes in the structure of society as a result of the industrial revolution have likewise stimulated studies on the effect of these changes on education. The reports evaluate materials in sociology and economics in terms of their importance for education (4, 5, 10, 11).

One basic problem underlies this research: in our technical world, how much humanity can men retain? In education, the question becomes: to what extent can technical developments be brought into the curriculum without neglecting the humanities?

As we have already pointed out, much educational research is carried on outside the universities. The task is expressly one for the teachers colleges. However, because professors here, as in the universities, are overburdened by lectures, examinations, and the supervision of student teachers, it is nearly impossible for the teaching staff to carry on research. Professors' interest in inquiry finds its way into students' papers. Professors of education and psychology in

teachers colleges have had years of teaching experience in elementary and high schools. Naturally they are in close contact with real life in education, and naturally their background in practical education influences students' papers.

Georg Geissler has listed the subjects of examinations papers by students in the teachers college connected with the University of Hamburg. His findings are shown in Table 2. Clearly many papers have been written on practical education. Seventy per cent of the topics are concerned with education and teaching in the school, 11 per cent with problems in education outside the school, and more than 8 per cent with topics in educational psychology. Almost 90 per cent of the papers are connected with educational practice. The reason lies, in part, in the official regulations. These require that examination papers deal with problems closely connected with school life. Teachers colleges want their candidates to use their own experience in their schoolwork. Geissler reports that nearly a third of all papers deal with school life. Almost half of the papers are based on investigation by the students. In these investigations real research is carried on. Few of the papers are published, but the more valuable ones find their way into books by professors (14).

The fields of publication by professors at teachers colleges correspond roughly to the summary of elementary-school teachers' examination papers shown in Table 2. However, it should be said that little empirical investigation is going on. Like the universities, the teachers colleges have neither the time nor the resources for such research.

Real investigation forms the basis of even fewer materials published in journals. Of course, the nature of the articles depends on the readers for whom the journals are written. Articles in *Bildung und Erziehung* are written by educators whose interests are varied. The readers are teachers whose interests are equally varied. The distinction between the words *Bildung* and *Erziehung* is difficult to put into precise English equivalents. Taken together the terms mean culture, education, upbringing.

Die Deutsche Schule or *The German School* is edited by the *Arbeitsgemeinschaft deutscher Lehrer- und Lehrerinnen-Vereine*, the largest teachers union in Germany. Also known as the *Journal of Educational Science and School Life*, this publication considers, in an even stronger way, the needs of the school and the teacher. A special section, "View Across the Border," accounts for the high percentage of articles on comparative education. More than half the research articles deal with problems of education in the schools.

School problems make up an even larger part of *Westermanns Pädagogische Beiträge*, which may be translated *Westermann's Educational Contributions*. This leading teachers' journal is written by teachers themselves. Eighty per cent of the articles deal with everyday school problems. This journal, which publishes brief contributions on school practice, is not really a scientific publication.

In general, the content of the articles in journals of education depends mainly on the readers' interests. The more "scientific" a journal wants to be, the less the articles are concerned with problems of actual teaching. Two journals included in this survey publish little research on teaching problems. One is *Vierteljahresschrift für wissenschaftliche Pädagogik*, or the *Quarterly of Scientific Education*, a journal that presents the point of view of Catholic educators and is edited by the *Deutsches Institut für wissenschaftliche Pädagogik*. The other is *Zeitschrift für Pädagogik*, or *Journal of Education*, a quarterly whose authors are educators at German universities.

In 1952, educational research in Germany received fresh encouragement. In that year, the *Hochschule für Internationale Pädagogische Forschung*, or the Higher Institute for International Educational Research, mentioned earlier, was founded. It is a unique addition to the academic community of traditional Germany universities and institutes of higher education.

The special task of the new center is to promote research in education and related fields. The center does not limit its activities to fields traditionally considered to belong to education but includes

school legislation, administration, and finance, as well as educational psychology and sociology. The institute emphasizes comparative education, and, in research, the international outlook. By studying the reality of teaching and education scientifically the center hopes to help clarify educational facts and relations so that the results of its investigations and inquiries may become useful instruments in the hands of practical educators.

Teachers from any country and from all kinds of schools may enrol. Registration is open also to civil servants, employees of school administrations, youth leaders, and social workers. Candidates must enrol for at least a year. Applicants should be eligible for university studies. Their professional preparation should be completed, and they are also expected to have some in-service experience. Candidates should be interested in, and qualified to do, research. Preferably they should have knowledge of at least one foreign language. The Institute strives to enable students to carry out research projects. The students may choose their own projects or they may work on a project assigned to them. They may concentrate on individual projects or on larger group projects. The aim is to do empirical research that cannot be done or is not being done in German universities or research institutes.

During the five years of its life, the center has developed the Frankfurt Tests, intelligence and achievements tests urgently needed in educational research. The center has also published books, pamphlets, and articles (15). The work of the Institute is especially important to educational research in Germany. This country has no outstanding national or regional societies for educational research, as in England or Scotland. Nor do we have large foundations that support educational research, as in the United States.

What are the main problems facing educational research in Germany? Automation and its influence on the world of work are of utmost importance. The structure of society and its implications for

the schools are equally important. Since these problems are extraordinarily urgent and since educators themselves are doing no research, they are making more and more use of comparative education to detect general trends.

Several other crucial problems are more frequently discussed than methodically investigated. There is interest in changing our schools from mere training institutes to places where young people may live their own lives. Whenever this problem is discussed the questions of the five-day school week and the five-hour school day usually arise. In Germany, students attend school six days a week, from eight in the morning till one in the afternoon. German educators are asking how they can develop the *Volksschuloberstufe*, which includes from fifth to eighth grade, as a school that offers secondary education to all. The question is tied up with the extension of compulsory full-time education to at least nine, and later ten, years. The proposed change poses problems on buildings, additional teachers, and an adequate curriculum. German educators are discussing experiments on curriculum problems—the core curriculum, extracurricular activities, all kinds of projects as well as teaching in units or in *Epoches* of three or four weeks each.

Political education for a democratic way of life is being discussed, and experiments are being carried on in all types of schools. Reports on experiences and suggestions for civics and social-studies classes occupy a large place in the publications. Of special importance is the relation between general education, or *Allgemeinbildung*, and training in the vocational schools. The elementary school is for pupils up to fourteen years of age. The vocational school is for students from fourteen to eighteen years of age. Vocational schools are only part-time schools, which students have to attend one day a week. The prolongation of general education is closely linked with these vocational schools.

Because we have only a few nursery classes and kindergardens connected with the schools in Germany, children have to be tested

for their school readiness. The school readiness tests that have been introduced into elementary schools are often discussed.

Reading methods and remedial teaching for children with reading difficulties are other acute problems. Recent experiences show that not all methods are equally suited to all children. Provision for individual differences in the early grades is urgently desired. But necessary methods must be developed. Since there are no reading clinics, remedial teaching has to be carried on somehow in the regular schools. The possibilities for this kind of teaching have to be shown. The problem is especially important since classes are still too large—forty students on the average.

Because the German school system is still based on selective principles, questions on selection are highly interesting. At the end of fourth grade, children have to be selected for various types of secondary education. The form of selection, as well as the evaluation of examination results, records, and combined methods of selection are important tasks for research. Experiments are being carried on with a view of accomplishing this selection within several years of differentiation. Within two or four years, from the age of ten to twelve or fourteen, the child has to discover his interests and be guided by teachers, parents, and psychologists to additional adequate schooling.

Another question of growing importance is the guidance of children who do not find their way through secondary schools to higher education. It is to be provided for by what we in Germany call the *zweiten Bildungsweg*, or the second way to higher education. Usually students are admitted to the university after they have finished grammar school and passed the final examination, or *Abitur*. Since the war, institutions have been set up to enrich the schooling of gifted students. The new offerings are given in addition to vocational training. The gifted student may take them along with his vocational training or after his apprenticeship. The work makes it possible for the talented students to go to a university. These developments are looked upon as a kind of democratizing of education and in time

will have to be taken into the regular school system. But these plans are still in a state of experimentation.

As leisure time increases, it becomes more and more important to help people make good use of these hours. As a free-time activity, school children are helped to enjoy films in reasonable amounts. Further preparation for leisure will be possible only if we are ready to change the curriculum.

This report is merely a survey. We have not been able to discuss individual problems and special fields of research. But we hope that we have made it clear that recent years have brought a growing recognition in Germany that sound development in education is impossible without thorough research. Such research requires institutions that are well staffed and adequately financed. These requirements are not yet generally acknowledged, but this drawback is probably not limited to Germany.

NOTES

1. Georg Derbolav, *Die gegenwärtige Situation des Wissens von der Erziehung: kritischer Sammelbericht zur Pädagogik und ihren Grenzgebieten*. Bonn: Bouvier, 1956.
2. Georg Geissler, "Themen pädagogischer Prüfungsarbeiten," *Zeitschrift für Pädagogik*, III (May, 1957), 121-42.
3. René König, *Materialien zur Soziologie der Familie*. Bern: Francke, 1946.
4. Theodor Litt, *Das Bildungsideal der deutschen Klassik und die moderne Arbeitswelt*. Bonn: Bundeszentrale F. Heimatdienst, 1955.
5. Theodor Litt, *Technisches Denken und die moderne Bildung*. Heidelberg: Quelle & Meyer, 1957.
6. Wilhelm Roessler, *Jugend im Erziehungsfeld*. Düsseldorf: Schwann, 1957.
7. Helmut Schelsky, *Die skeptische Generation*. Düsseldorf and Cologne: Diederichs, 1957.
8. Helmut Schelsky, *Wandlungen der deutschen Familie in der Gegenwart*. Dortmund: Ardey, 1953.
9. Hilde Thurnwald, *Gegenwärtsprobleme Berliner Familien*. Berlin: Weidmann, 1948.
10. Heinrich Weinstock, *Arbeit und Bildung*. Heidelberg: Quelle & Meyer, 1954.
11. Heinrich Weinstock, *Realer Humanismus*. Heidelberg: Quelle & Meyer, 1955.

12. Gerhard Wurzbacher, *Leitbilder gegenwärtigen deutschen Familienlebens*. Dortmund: Ardey, 1951.

13. The word *Tatsachenforschung* is interesting insofar as in Germany the educators obviously thought that something more than facts could be explored.

14. See, for example, F. Stückrath and G. Schottmayer, *Psychologie des Filmerlebens in Kindheit und Jugend*. Hamburg: Schroppsche Lehrmittel-anstalt, 1955.

15. For more information see Alina M. Lindegren, *Germany Revisited: Education in the Federal Republic*. Office of Education Bulletin 1957, No. 12. United States Department of Health, Education, and Welfare. Washington: Government Printing Office, 1957.

Educational Research in French-speaking Countries of Europe

The beginning of this century saw a surge of interest in educational research. Alfred Binet was one of the pioneers in the movement. It was during this period that he prepared his intelligence scale. But even before he fashioned this tool for measuring the intelligence of individuals, he left his laboratory to carry on research in the classrooms of the elementary schools of Paris (4). By 1900 interest in research was widespread enough for Binet to found the Free Society for the Psychological Study of the Child.

Binet's intelligence scale was only one legacy of this period. Today several achievement tests dating back to this era are still sometimes used in elementary schools. Among these are the spelling and arithmetic tests prepared by Vaney in 1905 (77).

The surge in interest in research at the turn of the century did not stop at the French boundary. Across the border in Switzerland, Claparède (14) worked year after year on his *Experimental Pedagogy and the Psychology of the Child*. His was the dedicated task of developing and refining a first tool for researchers. Belgium, too, was caught up in the new spirit. Under the aegis of the Belgian Society of Childhood Education, physicians and professors met and launched studies, some of which opened new pathways indeed (73, 78).

However, the movement affected only a select handful of teachers. In French-speaking countries, teachers still directed their instruc-

FERNAND A. HOTYAT is a professor at the Institut Supérieur de Pédagogie, or the Higher Institute of Education, in Morlanwelz, Belgium. ROGER A. PILLET, teacher in the Laboratory Schools and assistant professor of French in the College of the University of Chicago, translated the article from the French.

tion to the entire class rather than to individuals. It should be said that school practices are the fruit of a long empirical tradition, a tradition that at times has been tinged with idealistic rather than scientific considerations. It should be noted, too, that during the early part of the century, technical and economic developments—still in the process of slow evolution—were not yet bringing pressures on the school for greater achievement.

The years between 1918 and 1940 were marked by the penetration of educational research into university teaching. The movement started in Geneva as early as 1912, with the founding of the Institute of Educational Sciences. One after another, Belgian universities created schools of education, and several centers of educational research were set up: the Educational Laboratory of Angleur, in 1928, near Liège (42) and the Maison des Petits and l'École Expérimentale du Mail at Geneva.

After World War II, research received fresh impetus, as educators were faced with the necessity of making up for lost time, adapting school programs, and meeting the growing demand for skills and knowledge. Schools of educational science multiplied, and this growth was accompanied by the development of seminars and laboratories. Educational psychologists perfected their methods and published research findings. Finally, government officials began to show an interest in objective studies. The National Educational Institute of the French Ministry of National Education created a research service, and the Belgian Ministry, working on a smaller scale, set up the Consulting University Commission for Education. The needs that were waiting to be satisfied were diverse. The diversity led not only to a great variety of studies but also to radical changes in concepts of methodology.

Because it is impossible to list here all the studies that have been published since 1940, we shall limit ourselves to those that seem especially significant.

Many studies have evaluated student achievement in arithmetic

and the native language. Among the latter was a research project undertaken simultaneously in Brussels and in Geneva (32). The study, which was conducted among students in their sixth to tenth year of school (86), covered the agreement of the past participle, one of the grammatical difficulties of the French language. The research made it possible to establish the teaching sequence of successive cases and to indicate which should be postponed for study in the secondary school. Many research studies deal with various aspects of language-teaching, especially grammar (12), the recognition of parts of speech (16), and the shift from literal to figurative meaning (13).

One especially noteworthy trend in language research is discernible: the development of teaching instruments that use research findings. Under the direction of Professor Buyse at Louvain, Aristizabal (2) established a basic vocabulary. Dubois used the list to develop a spelling scale (26) and a teaching method (27), and Pirenne used the list to analyze faulty spelling (66). Likewise Gal (29) has developed Latin manuals based on word-frequency lists prepared by Mathy (50), who compiled his lists from books used in secondary schools. Roller studied achievement in the conjugation of French verbs (68) and proposed a teaching program (69) and a control test (71) that take into account difficulties in spelling as well as the frequency with which verbs are used, according to Aristizabal's list. Delchet (23) has worked out individualized methods for improving the French of students in the *centres d'apprentissage*, or vocational schools. He used experimental controls to evaluate results. A committee of the French Ministry of National Education, headed by Professor Gougenheim, published *Basic French* (55). The work includes a vocabulary based on the frequency with which the words are used in the spoken language and a summary of the most important grammatical rules for conversation. One special feature of this work is the listing of words like *autobus* and *jacket*.

A fairly large number of studies deal with numbers and forms.

Mialaret (52) tabulated the percentages of correct answers that second- and third-graders gave to problems involving a single operation. A Belgian committee (17) making a study of long division minutely graded the problems that arose and analyzed the major types of errors. In geometry, Michaud (54) has noted the realistic character of students' concepts, and Mortier (57) has reported that the spontaneous use of the properties of figures occurs later than school programs prescribe.

Research in mathematics beyond the primary school combines statistical studies and the psychological analysis of procedures used by students. A. M. de Moraes (56) administered group tests on problems to students between the ages of eight and fourteen. The researcher's purpose was to study the thinking of the students—the most capable as well as the less capable—as they tried to solve the problems, explaining each step aloud. Among the most common faults reported were syncretic comprehension of what was said, inability to understand what had not been experienced, inability to apply rules prematurely acquired, a certain rigidity of thought that made it impossible for students who were interrupted to synthesize the data and elements already covered. Hotyat (34, 35) has been making studies to determine at what level the psychological conditions necessary for abstract mathematical reasoning are achieved. He is trying to identify the steps and the weaknesses in the development and the comprehension of a demonstration in mathematics. Using the concepts of Piaget as a base, several disciples of the Swiss psychologist are exploring students' mental processes in solving equations and abstract problems (43) and in mastering calculations with negative numbers (58). Aebli (1) has proposed an activity method for teaching the measurement of the area of a rectangle.

Researchers have been less interested in the teaching of history and geography. However, we can mention one study on the use of documents in the teaching of history (30) and another on the civic

knowledge of soldiers, who, it turned out, were better informed on local than on national institutions (70).

In recent years the studies of Piaget and Inhelder have often dealt with the development of concepts in experimental sciences: the notion of chance (63), notions of movement and speed (62), the discovery of causal relationships and physical laws by children and adolescents (38). Leboutet (46) has conducted research on concepts in physics and chemistry that secondary-school students find difficult.

The International Children's Center (51) has made many studies on the effect of enriching the cultural background of boys and girls in primary schools in isolated rural districts. For two years, children in twelve farming areas have been supplied with beautiful books, films, exhibits, music, and artistic reproductions. The results have been highly encouraging.

Students' reactions to other media have also been under study. In co-operation with the Institute of Filmology of the University of Paris, B. and R. Zazzo (83) observed almost fifteen hundred students who were serving as judges of an international competition of children's films. In all, fifty reels were shown. Children's reactions during the performances were recorded, and the young judges were asked to explain their choices. The behavior of nursery-school (82) and primary-school children (33) during film showings have been the subject of several studies. A more specialized study reports interactions of students from four to fourteen years of age during the showing of a comic film (48). Finally, an investigation by Leboutet and Haslé (47) describes the aid that educational television can offer in the teaching of geography.

Several surveys have been made, the most important one by the French National Institute of Demographic Studies (39). In this survey, ninety-five thousand children, from six to twelve years of age, were given Gille's mosaic test. Scores were correlated with the professional status of the parents, the population density of the region, the family group, and regularity of school attendance.

In 1946, the Higher Institute of Education of Hainaut in Belgium explored the mental development and the achievement of thirty-four hundred children whose studies had been disturbed by war. The study was limited to achievement in language and arithmetic by boys and girls from the third to the sixth grade. In 1956, the same tests were again given in sixth grade (40, 49). The results made it possible to detect strengths and weaknesses in the students' achievement and to appreciate the progress made during the previous ten years. Another study related achievement scores in reading, spelling, and arithmetic at the end of the first year of school to intelligence scores, absenteeism, and certain factors in the family background (41).

Several studies have focused on the effect of social conditions on teaching. The Institute of Sociology at the University of Liège (15) made a study of orientation of children beyond elementary school. Zazzo and Dabout (85) have studied the influence of socioeconomic factors in family life on the choice of school and academic retardation. De Coster and Van der Elst (22) have studied the difficulty of rising socially through education, even in a country where social stratification is not rigid. To compare the education of children in rural and urban environments, Lanneau and Malrieu (45) studied twenty-nine monographs on parent-child relationships, children's behavior, and parents' concepts of education as revealed during interviews. In line with the interest in education and society, the University of Brussels, in 1957, chose the theme "Education, a Social Institution" for a week of special study (76).

Problems related to academic orientation have been considered at several levels. Kayart (44) compared examination results at the end of elementary school with scores on intelligence tests. Using factor analysis, Bonnardel (5) shed light on the distinction between the literary and scientific capacities of eighth-grade students. Van Waeyenberghe (80, 81) has studied the discriminative and prognostic value of tests in arithmetic, in the native tongue, and in gen-

eral information acquired by the end of elementary school; Derivière (24) has been studying the academic achievement of secondary-school students whose health is below par.

School psychologists, whose services have only recently been introduced into the schools, are far from agreement in their concept of their functions. Some limit themselves to giving group intelligence tests for the purpose of offering advice on orientation; others are also concerned with the standardization of tests; and some work with maladjusted students. A summary of school psychological services, and they are extensive, appears in *Actes des journées internationales des centres psycho-pédagogique de langue française* (11).

Physical and emotional handicaps are the object of much research. Many studies have been made of retarded children (36), crippled children (28), deaf-mutes (61), and maladjusted children (74). Dyslectics, or children who have pathological reading disabilities, have inspired studies on the influence of left-handedness (72), speech defects (6), and spatial organization (75). A great deal of research is being conducted on the psychological development of children and adolescents.

O. Brunet (8) has tried to trace the origin of below-average development in children from a substandard social environment. The author compared three groups of babies who were six months of age and at the same average level of development. The first group was made up of children of intellectual parents; the parents of the second group were skilled and unskilled laborers; and the babies in the third group were brought up in a nursing home, where they were allowed to remain in bed as long as possible. As a group, the children in the nursing home showed retarded development as early as twelve months of age. After the age of two, the children of intellectual parents surpassed the children of laborers. The experiences of the children in the first group, the author observed, were more varied than those of the children in the second group. The children of intellectual parents went out more, had a greater variety of playthings,

a richer vocabulary, and more educational contacts with the mother.

Spatial concepts have been the focus of many research projects. Piaget and Inhelder (64, 65) have devoted two studies to the subject. On the subject of drawing, Naville (59) believes that, in free design, children express themselves more easily with color than with line. R. Zazzo (84) has been studying the relation between graphic gesture and the structuration of space; Boussion-Leroy (7) reports a definite correlation between intellectual retardation and the persistence of traces of "transparency" in drawing; André Rey (67) has perfected tests designed to observe stages in the mastery of perspective.

De Coster and Goosens (21) have examined data on adolescents, their academic achievement and their physical, psychological, and social development. Although puberty is often accompanied by temporary maladjustment, these researchers believe that the difficulties seldom lead to serious educational disturbances.

Several authors have shown a decided leaning toward psychosocial aspects of development. Nielsen (60) observed the development of co-operation among students engaged in manual and graphic activities. Burstin (9) studied certain aspects of socio-moral development by analyzing children's wishes. Teachers (3, 37) are making more and more use of sociometric techniques in their studies of children.

To list the measuring instruments used in research would require a special article. Aside from diagnostic tests, which are seldom used, a variety of tests are available.

Of course, all research centers are interested in the same problems, use the same tools of investigation and the same methods of statistical analysis. But the needs of institutions as basically different as schools for atypical children, on the one hand, and university laboratories, on the other, have led to specialization and consequently to a divergence in concepts on research methods.

At first, in accordance with the tradition of the period, institutes

of educational science set up two branches of instruction: one in child psychology and one in experimental pedagogy. The well-known work of Claparède (14) reflects this duality.

Thus a complete scientific discipline in education was established. In 1935, Buyse (10) summarized the objective of this discipline. On the basis of his summary, Dottrens (25) limited research in education to the following objectives:

- To accumulate records that will permit the comparison of objectives in teaching and of achievement in learning.
- To prepare the basis for a plan of experimental studies that would seek to identify, for each age level and for each discipline, concepts within the children's reach.
- To give future teachers a practical means of measuring the effectiveness of their teaching through the measurement of student achievement.
- To give teachers precise information on the difficulty of items in the curriculum so that teaching time and attention may be wisely budgeted.
- To analyze orientation tests administered to all children in the higher grades in order to establish norms that will make it possible to give useful advice to parents.

In Geneva, a team under the direction of Roller continues to work toward these goals with minute care for rigorousness in development and interpretation. The ultimate aim is to perfect teaching tools that are directly useful in the classroom.

However, most educators of the new generation believe that to restrict experimental work in this fashion fails to take into account the complex reality of educational problems. The younger educators seek activities of broader scope and greater flexibility.

Mialaret (53) extends the idea by applying it to scientific thinking on processes of education. Moreover, though he makes all the resources of statistical techniques available to research, he believes that clinical analysis is also indispensable. Clinical study and statistical analysis occur at different stages of research, either as means of discovery, verification, or explanation. The two methods are inseparably related.

Some educators regret that experimental education has only partially realized the goals outlined by Dottrens. If experimental re-

search has succeeded in devising satisfactory quantitative controls, it has not yet succeeded in defining, with the same felicity, qualitative changes in the educative process. And yet in many branches of teaching, this objective is of prime importance. Undoubtedly because of a desire to be objective and faithful to scientific methods, Gal writes, the accent in research has too often been put on quantitative and analytical aspects. This emphasis has provoked skepticism among many teachers who found, for example, that tests in historic or artistic culture—to consider only two areas that we have studied—do not always measure what they claim to be measuring (31).

Moreover, regardless of the difficulty the researcher faces in analyzing problems and isolating factors, in education no result should be, or can be, judged in isolation. The researcher must always bear in mind the unity of the teaching act and especially the goals of teaching.

Specialists in educational psychology and in educational institutions for atypical children find it arbitrary to fit all test results into a single system of norms. Researchers often find that, when questions on given content are stated in a certain way, they favor some groups of children and handicap others. Hope for differential education emerges from these observations, which along with experimentation can lead to a more precise concept of reality.

But recording the results of children's tests is only a starting point. Deviations must be studied and their cause determined. At this stage of research, the educational and psychological elements are so closely interrelated that it is artificial to keep them separate. For this reason Debesse (18) includes in experimental education "all research in education—whether based on statistics or not—that is carried on in the experimental spirit with the aid of objective techniques."

Researchers who have remained close to children and school life are preoccupied with the importance of variable factors that affect experimental education.

Learning is influenced by the very fact that an experiment is

taking place. In a sense, during experiments, the children are structured. Factors of motivation, in particular, can intervene in varying degrees in control groups as well as in experimental groups. Moreover, the interest—positive or negative—of the teaching personnel creates a new climate in class. Mialaret (53) tries to eliminate these disturbing factors by maintaining constant contact between the laboratory and the experimental school. "The experimenter must live in the classrooms in order to be able to perfect his experimental plan and to follow its implementation. . . . An experiment must of necessity be integrated into a school program in order not to distract students needlessly from their school work."

Sociological elements, too, can have a massive influence on children's reactions. The effects can be especially pronounced in history classes or in written expression. Gal asks:

To what extent do the attitudes apparent in our experiment depend on the social or historical climate in which the child is steeped? We have often observed an influence. We may wonder, for example, to what extent an event such as the one that is now agonizing the French and the Arabs can have repercussions on the attitudes not only of adults but of children as well [31].

Professor Wall (79), writing for UNESCO in Paris, stresses this point in connection with reading norms. He suggests that they represent the combined effects of at least four variables:

The relationship between intelligence and learning aptitude

The relationship between methods used in teaching reading and children's achievement after a given period of training

The relationship between learning to read and factors that do not depend directly on intelligence or instruction, such as cultural milieu and the child's motivation to learn

Chance factors connected with the test, such as the time and place of the examination

Of course, by taking precautions, one can, up to a point, eliminate or take into account certain perturbing factors, such as errors due to chance and individual differences. But, "is it true, for example, to say that, in a sample of schools, the quality of instruction is haphazardly distributed from the good teacher to the bad teacher? Can

we affirm that motivation and cultural stimulus are distributed among children according to the binomial curve?" From these observations Professor Wall concludes that hypotheses must be organized in terms of development and not in terms of teaching or measuring. Educational research must therefore be defined as a study of human development and of learning in different situations, whether structured or not, provided by a given society.

De Coster (19, 20) tries to collect all these currents in a synthesis of a science of education. "Education," he writes, "is an interdisciplinary science; the problems it must solve include physiological, medical, social, scholastic, or psychological factors of varying importance, depending on the nature of the problems." De Coster goes on to say that the findings of this interdisciplinary science will be valid only as it adheres to sociology—as it often does not—and as "it consolidates its investigations by having recourse to psychology and social psychology, the only sciences capable of bringing satisfactory light on the affective and intellectual causes of human actions."

De Coster proposes a concept of research—the method of complements—that would avoid the weakness of compartmentalization evident in specific scientific disciplines. The method of complements he defines as a technique that, in the presence of complex psychosocial phenomena, lists the components in order to restore their original meaning to the total explanation.

Unity is yet to be established among these diverging positions. But far from leading to sterile quarrels among sects intent on opposing one another, these views serve as guides for many research projects. The views are expressed chiefly at friendly annual meetings where educators from France, Switzerland, and Belgium report on their work and solicit the constructive criticism of their colleagues. We can cite here one sign that many educators in these countries hope to work together even more closely in the days ahead: this year educators in French-speaking countries founded the International Association of Experimental Education.

Theorists, laboratory researchers, educational psychologists, and

experts in special education are gradually building a scientific system. Through the exchange of experience gained in the crucible of daily work they are helping to create a system that is less rigid, less compartmentalized, and more intimately adapted to the complex reality of educational problems.

NOTES

1. H. Aebli, *Didactique psychologique*. Neuchâtel and Paris: Delachaux et Niestlé, 1951.
2. F. Aristizabal, *Détermination expérimentale du vocabulaire écrit*. Paliseul, Belgium: Bodson-Labbé, 1939.
3. G. Bastin, "Les observations des professeurs et le test sociométrique," *Cahiers de pédagogie et d'orientation professionnelle*, No. 1 (1951), 15-19.
4. A. Binet, *Les idées modernes des enfants*. Paris: Flammarion, 1911.
5. R. Bonnardel, "Évolution des liaisons entre des réussites dans les diverses matières scolaires," *Journal de psychologie normale et pathologique*, No. 3 (1951).
6. S. Borel-Maisonny, "Les troubles du langage dans les dyslexies et les dysorthographies," *Enfance*, No. 5 (1951), 400-444.
7. A. Boussion-Leroy, "Dessins en transparence et niveau de développement," *Enfance*, Nos. 3-4 (1950), 276-87.
8. O. Brunet, "Genèse de l'intelligence chez les enfants de trois milieux différents," *Enfance*, No. 1 (1956), 97-146.
9. J. Burstin, "Aspects de l'évolution socio-morale de l'enfant," *Enfance*, No. 2 (1953), 97-146.
10. R. Buyse, *L'expérimentation en pédagogie*. Brussels: Lamertin, 1935.
11. Centre National de Documentation Pédagogique. *Actes des journées internationales des centres psycho-pédagogique de langue française*. Paris: Centre National de Documentation Pédagogique, 1954.
12. H. Chambron, "Quelques aspects des procès intellectuels au cours de l'analyse grammaticale chez les enfants de 6^{ème}," *Enfance*, No. 2 (1953), 167-79.
13. H. Chambron and M. Dejean, "Psychologie du langage: Emploi de mots au sens figuré chez les élèves de 6^{ème}," *Enfance*, No. 5 (1954), 529-40.
14. E. Claparède, *Psychologie de l'enfant et pédagogie expérimentale*. Geneva: Kundig, 1905 (first edition); 1924 (tenth edition).
15. J. Collard, *La première orientation au sortir des écoles primaires officielles*. Liège: Séminaire de Sociologie, Université de Liège, 1951.
16. M. Collinet, "Expérimentation en grammaire: Les notions de pronom, d'adjectif déterminatif et de conjonction à l'école primaire," *Cahiers de pédagogie et d'orientation professionnelle*, No. 2 (1952), 45-48.
17. Commission consultative universitaire belge de pédagogie. *La division écrite des nombres entiers et ses difficultés*. Brussels: Ministère de l'Instruction Publique, 1953.
18. M. Debesse, "Pédagogie curative et pédagogie expérimentale," *Cahiers de pédagogie expérimentale et de psychologie de l'enfant*, No. 11 (1954), 8-14.
19. S. De Coster, *La sociologie et l'évolution de la pédagogie contemporaine*. Brussels: Institut de Sociologie Solvay, 1957.
20. S. De Coster, "La pédagogie, discipline de la complémentarité," *Revue des sciences pédagogiques*, Nos. 4-6 (1949).
21. S. De Coster and G. Goosens, "Les variations du comportement pédagogique pendant la puberté," *Enfance*, No. 3 (1953), 185-248.

22. S. De Coster and G. Van der Elst, *Mobilité sociale et enseignement*. Brussels: Librairie Encyclopédique, 1954.
23. R. Delchet, "Étude expérimentale sur la permanence de certaines acquisitions grammaticales dans les centres d'apprentissage," *Courrier de la recherche pédagogique*, No. 7 (1957), 19-32.
24. R. Derivière, "Les causes physiques du déficit scolaire et leur traitement," *Enfance*, No. 3 (1951), 269-76.
25. R. Dottrens, *La pédagogie expérimentale*. Paris: L'Éducation Nationale, 1951.
26. F. Dubois, *Échelle B-D d'orthographe usuelle française*. Namur: La Procure, 1940.
27. F. Dubois, *Enseignement direct de l'orthographe usuelle*. Namur: La Procure, 1942.
28. C. François-Unger, *L'adolescent inadapté (Réadaptation sociale et sa formation professionnelle)*. Paris: Presses Universitaires de France, 1957.
29. R. Gal, *Manuel de latin: Liber primus, classes de 6^e; Liber secundus; Liber tertius*. Paris: Éditions O.C.D.L., 1955, 1956.
30. R. Gal, "Recherches sur l'emploi des méthodes actives en histoire," *Courrier de la recherche pédagogique*, No. 2 (1954), 2-5.
31. R. Gal, "Une expérience française pour la compréhension internationale," *Courrier de la recherche pédagogique*, No. 7 (1957), 5-18.
32. G. Goosens and S. Roller, "Recherches expérimentales sur la connaissance de l'accord du participe passé à Genève et à Bruxelles," *Cahiers de pédagogie expérimentale et de psychologie de l'enfant*, No. 11 (1954), 38-40.
33. H. Gratiot-Alphandéry, "L'enfant devant l'image," *Bulletin de la Société Française de Pédagogie* (1953), 21-36.
34. F. Hotyat, "Le cheminement de la pensée dans le raisonnement mathématique chez l'adolescent," *Revue des sciences pédagogiques*, No. 44 (1948).
35. F. Hotyat, "Les faiblesses de la pensée mathématique chez les adolescents," *Enfance* (1952), 273-300.
36. F. Hotyat, "Quelques considérations sur le quotient intellectuel des retardés de l'enseignement primaire," *Enfance*, No. 2 (1954), 131-38.
37. A. Husquinet, *L'adaptation scolaire et familiale de jeunes garçons de 13 à 14 ans d'après le test sociométrique et le test d'aperception thématique*. Paris: Les Belles Lettres, 1954.
38. B. Inhelder and J. Piaget, *De la logique de l'enfant à la logique de l'adolescent*. Paris: Presses Universitaires de France, 1955.
39. Institut National d'Études Démographiques de France, *Le niveau intellectuel d'enfants d'âge scolaire*. Paris: Presses Universitaires de France, 1950-54. 2 volumes.
40. Institut Supérieur de Pédagogie du Hainaut, *Rapport sur le niveau d'instruction primaire en Hainaut en Juin 1946*. Charleroi: Imprimerie Provinciale, 1947.
41. Institut Supérieur de Pédagogie du Hainaut, "Enquête sur le rendement scolaire en 1^{re} année primaire," *Enfance*, No. 4 (1956), 31-48.
42. A. Jadoulle, *Le laboratoire pédagogique au travail*. Paris: Éditions Scarabée, 1951.
43. L. Jannot, *Le raisonnement mathématique de l'adolescent*. Neuchâtel et Paris: Delachaux et Niestlé, 1947.
44. X. Kayart, "Examen cantonal de fin d'études primaires et tests collectifs d'intelligence," *Revue pédagogique* (1951), 111-17.
45. G. Lanneau and P. Malrieu, "Enquête sur l'éducation en milieu rural et en milieu urbain," *Enfance*, No. 4 (1957).
46. L. Leboutet, "Étude d'un questionnaire des difficultés scientifiques," 5^e colloque international de pédagogie scientifique, Université de Caen, 1947.
47. L. Leboutet and Mlle Haslé, "Recherches sur deux émissions de télévision scolaire," *Courrier de la recherche pédagogique*, No. 7 (1957), 39-48.
48. A. Leroy, "Le jeune spectateur et son entourage," *Enfance*, No. 4 (1954), 293-316.

49. K. Matchabély and F. Hotyat, "Le niveau d'instruction primaire en Hainaut à dix ans d'intervalle," *Revue belge de psychologie et de pédagogie* (1957), 72-84.
50. M. Mathy, *Le vocabulaire de base du latin*. Paris: Éditions O.C.D.L., 1952.
51. M. T. Maurette, H. Gratiot-Alphandéry, et al., *Loisirs et formation culturelle de l'enfant rural*. Paris: Presses Universitaires de France, 1956.
52. G. Mialaret, *Enquête relative aux difficultés éprouvées par les élèves en présence de problèmes simples*. Saint-Cloud: École Normale Supérieure, 1954.
53. G. Mialaret, *Nouvelle pédagogie scientifique*. Paris: Presses Universitaires de France, 1954.
54. E. Michaud, "L'enfant et les figures géométriques," *Journal de psychologie normale et pathologique* (1947).
55. Ministère Français de l'Éducation Nationale, *Le français élémentaire*. Paris: Centre National de Documentation Pédagogique (rue d'Ulm), 1955.
56. A. M. de Moraes, *Recherche psycho-pédagogique sur le solution des problèmes d'arithmétique*. Louvain: Nauwelaerts [and] Paris: Vrin, 1954.
57. J. Mortier, "L'enseignement des notions fondamentales de formes géométriques," *Revue de Psychologie et de Pédagogie*, 1950.
58. L. Muller, *Recherches sur la compréhension des règles algébriques chez l'enfant*. Neuchâtel and Paris: Delachaux et Niestlé, 1956.
59. P. Naville, "De la tache au trait," *Enfance*, No. 5 (1950), 411-34.
60. R. F. Nielsen, *Le développement de la sociabilité chez l'enfant*. Neuchâtel and Paris: Delachaux et Niestlé, 1951.
61. P. Oléron, *Recherches sur le développement mental des sourds-muets*. Paris: Centre National de la Recherche Scientifique, 1956.
62. J. Piaget, *Les notions de mouvement et de vitesse chez l'enfant*. Paris: Presses Universitaires de France, 1946.
63. J. Piaget and B. Inhelder, *La genèse de l'ideo de hasard chez l'enfant*. Paris: Presses Universitaires de France, 1951.
64. J. Piaget and B. Inhelder, *La géométrie spontanée de l'enfant*. Paris: Presses Universitaires de France, 1950.
65. J. Piaget and B. Inhelder, *La représentation de l'espace chez l'enfant*. Paris: Presses Universitaires de France, 1948.
66. A. Pirenne, *Programme d'orthographe d'usage pour les écoles primaires*. Namur: La Procure, 1949.
67. A. Rey, "Épreuves de dessin, témoins de développement mental," *Archives de Psychologie*, 1947.
68. S. Roller, *La conjugaison française: Essai de pédagogie expérimentale*. Neuchâtel and Paris: Delachaux et Niestlé, 1954.
69. S. Roller, *Tableaux de conjugaison française*. Geneva: Département de l'Instruction Publique, 1955.
70. S. Roller and A. Dessoulavy, "Les connaissances civiques des écoliers et des recrues," *Cahiers de pédagogie expérimentale et de psychologie de l'enfant*, No. 10 (1953), 46-40.
71. S. Roller and R. Rauiller, "Élaboration d'un test sur la connaissance de la conjugaison française," *5^e Colloque de pédagogie scientifique*, Université de Caen, 1957.
72. J. Roudinesco et al., "Étude de 40 cas de dyslexie d'évolution," *Enfance*, No. 5 (1951), 1-32.
73. G. Rouma, *Le langage graphique chez l'enfant*. Brussels: Misch et Tron, 1913.
74. F. Van Roy, *L'enfant infirme, son handicap, son drame, sa guérison*. Neuchâtel and Paris: Delachaux et Niestlé, 1954.
75. J. Simon, "Contribution à la psychologie de la lecture," *Enfance*, No. 5 (1954), 431-48.
76. Université de Bruxelles, *L'enseignement institution sociale*. Brussels: Éditions de l'Institut de Sociologie Solvay, 1957.

77. A. Vaney, *Nouvelles méthodes de mesure applicables au degré d'instruction des enfants*. Paris: Année Psychologique, 1905.

78. R. Varendonck, *Recherches sur les sociétés d'enfants*. Brussels: Misch et Tron, 1914.

79. W. D. Wall, "Quelques considérations sur les méthodes de la recherche pédagogique," *Courrier de la recherche pédagogique*, No. 7 (1957), 33-38.

80. A. Van Waeyenberghe, *Essai d'une épreuve objective de connaissances scolaires pour la "charnière" de 12 ans: fin des études primaires, début des cycles secondaires*. Brussels: Centre National de Recherche de Psychotechnique scolaire, 1956.

81. A. Van Waeyenberghe, "Quelle est la valeur pronostique d'un test de connaissances appliqué à l'entrée de l'enseignement moyen?" *Revue belge de psychologie et de pédagogie*, No. 53 (1951), 4-16.

82. B. Zazzo, "Le cinéma à l'école maternelle," *Revue internationale de filmologie* (1952).

83. B. and R. Zazzo, "Le concours international du film éducatif pour enfants," *Courrier du Centre International de l'Enfance* (1954), 235-58.

84. R. Zazzo, "Le geste graphique et la structuration de l'espace," *Enfance*, Nos. 3-4 (1950), 204-20.

85. R. Zazzo and M. Dabout, "Nouveau commentaires sur la progression scolaire et l'inégalité des enfants devant l'école," *Enfance*, No. 5 (1954), 465-82.

86. For the sake of uniformity, in referring to the level of studies, we have used expressions common in the United States. The first year normally includes children six to seven years of age; the second year, children seven to eight years of age; and so on. [Translator's note: Wherever the word caused no ambiguity, we used *grade* rather than *year*.]

AMITAI ETZIONI

Columbia University

Work: An Educational Technique in Israeli Schools

Educational techniques are closely related to the values and the structure of the society in which education takes place. As a society changes, techniques are altered or abandoned, and new techniques are introduced. Israel furnishes an illuminating example of the effect of social change on educational method (13).

In Israel, work is a technique widely used in the schools. Most educational systems use work to develop skills. In this new nation work has been used, not only to provide training in skills, but also to impart values and to influence personality and character.

The technique is not new here. It had an important place in education in the Jewish community in Palestine. However, since the establishment of Israel the technique has changed considerably. One Zionist belief had a strong influence on the adoption of work as an educational technique. Known as "normalization," this tenet has played a significant role in both Palestine and Israel. During the Diaspora, or Exile, Zionists point out, the normal course of Jewish life was disrupted. Scattered from their ancient homeland, the Jews became an ethnic minority in a gentile society. In their new life they concentrated in middle-class professions; few became factory workers, and fewer still farmers. The Zionists hoped that the Jews would build their own society in Palestine. In this new society, all functions would be performed by Jews. Many who had been accustomed to professional life would have to work in factories and farms. The

AMITAI ETZIONI is an instructor in the Department of Sociology at Columbia University. In December, 1957, *Enfance* published an article by him in French on work in Israeli schools.

drastic shifts in occupation required by normalization ran counter to the trend in modern society, where hopes are likely to be aimed at the professions, not at factories and farms.

To fulfil the Zionist ideal of a new society, many Jews who immigrated to Palestine had to set aside old values. In the old life, such professions as medicine carried high prestige, while occupations like farming rated low. To idealize manual work, especially farm work, came to be one of the major goals of the Jewish community in Palestine. Since the pioneers wanted their children to share this ideal, it was stressed in youth movements (1) and schools (8:89). Naturally, educational methods felt the impact.

Describing Zionism and education in Palestine, Nardi wrote:

Physical work is considered the basis of educational work in school. There are many branches of it—kitchen and household tasks, cultivating vegetables and flowers, the care of fowls and domestic animals, the care of bees, all sorts of carpentry, book-binding, cobbling, sewing, weaving. The intention is not to make children expert craftsmen in any one line but rather to develop their manual skill, to make them love labor and realize its importance and value [7: 40-41].

In most schools (14) gardening, pathetically called "working the land," was part of the curriculum. Some schools had workshops as well as gardens. A few had only a workshop and no garden; educators rated these schools second best. Boys and girls of almost all ages worked in school plots and shops. All children took part in the same projects and performed similar tasks, though the work was adapted to physical abilities. For example, younger children used small tools and older children wielded larger ones.

Usually there was no selection based on the child's possible future occupation. It should not be assumed, however, that teachers and educators were unaware of methods of selection or of vocational training. All children were included in work projects because of the belief that manual, and especially agricultural, work is good in itself. Everyone should "work with his hands." Everyone, regardless of his future calling, should "work the land."

To instil these ideas, schools in poor and middle-class areas as

well as schools in more wealthy residential areas scheduled work projects. Usually the children cultivated a small vegetable garden under the guidance of a teacher. Every class spent an hour or more a week working in the garden. The official curriculum drawn up in 1932 provided for two hours of gardening a week for fourth, fifth, sixth, and seventh grades, and one hour for eighth grade (7:33). If a school had ambitious plans, each class was assigned a little plot, and classes competed in cultivating their small patches of land. Students were encouraged to stay after school to plant and weed and water. Some classes met regularly on Friday afternoons, the beginning of the Israeli week end, to work in the garden. In some schools Young Farmers Clubs were formed (9). Boy Scout units and other youth groups planted and cared for gardens of their own.

Many high schools encouraged students to spend summer vacations in villages. There the young people worked as agricultural laborers, usually without pay. Their labor was considered a national service that combined an opportunity to work the land with an opportunity to benefit from an enriching experience. In the *Kibbutzim*, or collective settlements, where this ideology is especially cherished, even teachers have been expected to spend one year out of five as manual workers, preferably in agriculture.

"Gardening is good." The belief prevailed in the *Kibbutzim*, in the high schools, and in the primary schools, even those primary schools whose graduates usually go on to technical, commercial, or academic high schools. Gardening was a way of inculcating the religion of work, a way of instilling values like pioneering, love of the land, and love of nature.

Paradoxically, city schools were often much more concerned about gardening and agriculture than village schools were. Even today schools in towns and cities stress gardening more than schools in outlying areas do. In Tel Aviv, where the cost of cultivating a garden in the small schoolyard in the middle of the city would be forbidding, some schools send their students miles away to garden. In Jerusalem, students in a well-known and highly esteemed school that lacks

grounds suitable for planting, cultivated vegetables in old cans, rusty barrels, and broken jars. Schools that had elaborate carpentry shops still felt that part of the time, at least, some grades should "work the land."

The strong pressure in the cities to offer classes in agriculture can be explained in various ways. There was a need to move people from the city to the country. The classes, it was hoped, might encourage this movement. Moreover, in the villages, students get ideological education and training in agriculture at home, while they help their parents on the farm. City children, on the other hand, have less opportunity for comparable training in the family. Emotional factors, too, were at work. In the city, many parents, teachers, and directors of schools were apparently impelled by a strong feeling of guilt. They felt that they themselves should be pioneering in the country. One way of releasing their guilt feelings was to give more pioneering education to children.

The establishment of the state of Israel led to a deep change in values, social needs, and social structure (2, 3). One major result has been a decline in the commitment to pioneering values. Some groups still regard agriculture and manual work as the most important callings, but the need for young people in the armed forces, administration, science, and teaching is so urgent that vocations in these fields compete strongly with agriculture. Occupational prestige follows the needs of society. At one time the needs in Israel required manual work. Now needs are much more diffuse and call for many other occupations. Fewer young people want to "serve the nation" through work in an agricultural pioneering settlement. Those who are inclined to serve have new ways of doing so, ways that range from piloting jets to advising government agencies on economic issues.

The change is reflected in the school system, the curriculum, and educational techniques. Recently, the Ministry of Education and Culture ordered work in gardens and workshops dropped from the curriculum of the primary schools. In some schools the classes were

discontinued completely. In others, the classes will be conducted as extra-curricular activities.

At the same time, a new subject called "Israeli Consciousness" has been introduced. Roughly comparable to lessons in citizenship in other countries, the subject has been allotted time formerly devoted to work. The classes are aimed not so much at imparting information on Israeli institutions as at fostering identification with certain values and with the young nation itself.

The change is symptomatic; the pioneering values of manual and agricultural work can no longer constitute the sole dominant focus of identification. New focuses are in order, loyalty to the state, for example, and brotherhood to thousands of new immigrants. At the same time, the technique for creating and encouraging identification has been changed from work to group discussion.

Work as an educational technique has by no means disappeared from high schools. There it is still part of the curriculum as in the old days, though some high schools now offer work as an extra-curricular activity only. There seems to be a tendency to retain the technique but to change its use and purpose. Formerly agricultural work had first place, while workshops, for carpentry mostly, had second place. Today the trend is toward more vocational training and less gardening; toward more practical purposes and away from ideological ends; toward selective education (10) and away from general education. We shall discuss each of these new directions.

The objectives of state education are defined by Israeli law: "To base primary education in the state on the values of Jewish culture and the achievements of science, on love of the country and loyalty to the State and the people of Israel, on training in agricultural and manual work, and on pioneering and striving for a just society" (5:127).

Work is still stressed in the definition of the school's mission, but Jewish culture, science, and loyalty to the state are listed first. In 1955, five hundred primary schools, 60 per cent of all such schools,

cultivated gardens or conducted agricultural classes. But the new curriculum, introduced in 1955-57, is much more concerned with bringing pre-vocational training into primary schools than with maintaining classes in gardening (5:130).

Two approaches to pre-vocational classes have emerged. In the first, these classes are regarded as practical training. Students are taught to change a bulb, to replace a fuse, or to repair a faucet or a chair. Girls learn to cook and sew. Boys and girls learn to use appliances and household tools. The purpose is to teach children to help their parents at home and to become more skilful adults themselves.

Though many teachers may not be aware of it, this is a middle-class point of view. Girls are prepared to be good housewives; boys are seen as future professionals or businessmen. Since they will not work with their hands, craft skills can serve as hobbies. Or the skills can prove valuable in keeping household appliances in working order with only occasional assistance from repairmen.

In the second approach, students are seen as future workers. Pre-vocational classes provide training in carpentry, metal work, or mechanics. Children are taught to recognize materials, to operate simple tools, even to read blueprints. Many students, it is reasoned, will probably be workers. Only a few will continue their studies in high school, and fewer still will turn to higher studies. With pre-vocational training, these students can become semiskilled rather than unskilled workers.

Clearly, the technique of work still plays an important part in Israeli schools, but that technique is changing in form and purpose. Work may still be used to impart values, but it is becoming more and more a training method aimed at developing skills. Sometimes general skills are developed, skills that are considered useful for everyone. Sometimes specific skills are the goal, skills selected on the basis of certain assumptions about the occupational future of the student.

Classes in agriculture are now often described as "unrealistic." The fact is being recognized that only a small fraction of the pupils in the primary school and a very small fraction of students in second-

ary school will turn to agriculture. This change reflects the new attitude toward working the land. Farming is becoming more and more one occupation among many, a way of earning a living, and less and less the symbol of pioneering and other sacred values.

In 1955 Hadassah, a women's organization that supports educational and welfare activities in Israel, conducted a survey among fourteen-year-olds. In all, 960 girls and 848 boys were asked to state their occupational preferences. The girls rated nursery-school teaching first, clerical work second, and agriculture twentieth, the last on the list. Most of the boys wanted to be mechanics; close behind were the aspiring electricians; agriculturists had tenth place.

There is no strictly comparable data for the period before the founding of Israel, but undoubtedly agriculture had more appeal then. Understandably manual work in Israeli schools is becoming less a method of education in the sense of character formation and indoctrination and more a method of developing skills.

The change in the purpose and use of this technique has raised a question that educators often prefer not to face: the question of selective education. By selective education, sometimes called differential education, we mean different education for various groups of children of the same age. The criteria for selection may be sex, abilities, parents' income. In the pioneering days, agricultural work was not offered as vocational training and therefore could include all students (6). In the old days, working the land had a place roughly comparable to sports, which are considered "good," not only for professional players, but for everyone. Or gardening might be compared with geometry, which is taught to prospective housewives as well as to prospective engineers because it "develops" the mind. So working the land, it was believed, builds personality and strengthens loyalty to pioneering.

But now the emphasis has shifted. Now schools are interested in preparing children for their future and contributing to the changing economy of the country. Clearly not all children have the same occu-

pational future. Some will leave school to become farmers; others will become factory workers or clerks. To teach prospective factory workers how to cultivate vegetables is, from the new point of view, a waste of time, energy, and money. Prospective factory workers should be trained in skills that will be useful in factories.

It is, of course, impossible to predict the exact calling that a child will follow, and the school cannot always give every student training suited to his inclinations. But children can be divided into broad occupational groups, and appropriate training can be provided for each. The main alternatives seem to be gardening, pre-vocational training, or no vocational training (11).

Selective training assumes that children's occupations can roughly be predicted. Predictions are made on three bases: children's aptitudes and abilities; children's sociological background; the future needs of the economy. Those who criticize selective education point out that aptitude tests are neither reliable nor valid. Besides, it is hard to determine the occupational inclinations of a twelve-year-old.

Even if aptitudes could be reliably measured, it is well known that they are only one factor in determining a child's future occupation. A child who has high aptitude for academic work may lack the motivation (4) or the means (15) to continue his studies. Such drawbacks may well hamper children from the lower classes, sons and daughters of new immigrant families.

It is true that today Israel has an elaborate system of scholarships to help gifted children, especially the children of new immigrants. Still many boys and girls drop out of school in seventh or eighth grade at twelve to fourteen years of age, sometimes earlier, to go to work to help their families. The school-leaving age is legally set at fourteen, though the law is not always enforced. Accordingly, when selective training is introduced, a child's social class, as well as his aptitudes, have to be taken into account.

In effect, selective education gives children an education geared to their parents' social status (12). The sons and daughters of farmers get agricultural training. Children of clerks and workers get voca-

tional training. Children of middle-class families get commercial or academic training. Thanks to the scholarship system, boys and girls with exceptionally high talents and motivation, whatever their social level, can break through class lines. Even so, most children obtain education and training in line with their parents' status, aspirations, and means.

The pattern is reinforced through the primary schools. Parents are compelled by law to send their children to the nearest primary school. Residents of a certain area often have about the same social status. Therefore, in practice, selective education means more pre-vocational training in schools that are attended by children of new immigrants and lower-class families, that is, schools serving areas where these families live.

Opponents of selective education label the system reactionary. They charge that it tends to maintain the present class structure. Most farmers' sons remain farmers, and middle-class children follow middle-class professions. Scholarships open the way for a few children, too few, to move into other occupations, the critics charge. Children should not be predestined to a certain group of occupations, that is, to a certain social class, the critics contend. And they go on to conclude that all children should have pre-vocational training, with or without gardening.

The head of the handicraft teachers association stated the position succinctly in an interview with the press reported on October 1, 1956, in *Haaretz* (the word means *earth* or *land*), one of the leading Israeli newspapers. If pre-vocational training is good, this officer asserted, it is good for all children, not for the children of new immigrants only. Those who hold this position argue that students who later use these studies to earn a living will profit directly from them. For young people who do not engage in manual work, pre-vocational training will still confer benefits by developing character. Again, the old, declining values come into play.

Our role here is to present the problem, not to judge who is right or wrong. However, it is safe to say that, despite the belief in equal-

ity and in the universal value of manual work, Israel is moving toward more selective education. Some fairly exclusive schools in the middle-class areas of Tel Aviv and Haifa still have elaborate gardens and fancy-work shops, but in schools located in lower-class areas and in districts where immigrants have settled, more and more classes in pre-vocational and vocational training are being offered. Most students in the Israeli printing school in Jerusalem, for example, are children of new immigrants. And in many agricultural boarding schools, the proportion of students who are children of new immigrants seems to be increasing.

In the new Israeli state, work as an educational technique has had still another use. Formerly it served as a way of creating and fostering identification with certain values like pioneering. Now work often serves as a way of fostering identification with the state and its goals (16).

To this end, thousands of students, most of them in high school, have taken part in many work projects. These boys and girls have helped cover the barren hills of Israel with trees. They have helped new immigrants battle flood waters in winter. They built a road in the desert next to the Dead Sea. They maintained an experimental farm in the Negeb Desert. The educational influence of these "operations," as they are called in Israel, has often been tremendous. Students benefited more from one day of such work, it was believed, than from hours of classroom lectures and discussions.

Lately the "operations" have been out of favor. They seem to have drawbacks that are proving hard to overcome. One difficulty is that the organizers of most of the operations rate their symbolic significance far above their economic significance. To many who planned the projects, the experience of working for the state on barren hillsides and in the blazing desert was the chief consideration. But trees planted by young children have had to be replanted by professional gardeners. And it is costly to send students to the desert,

support them there, and bring them back. In the end, it probably would have cost less to hire laborers to do the work.

But to look only at the cost of the operations is to miss the point. Costs have been written off as educational expense. More important than dollars and cents in the decline of the operations have been the responses of the children themselves to the work projects. The young people are not at all convinced of the significance of this service. They have come to feel that the operations are useless, meaningless, not a real contribution, but a false ritual (17). Faced with this response, the operations have suffered a setback.

Israeli society is changing. The ideals of a pioneering social movement are being adapted to meet the needs of a full-fledged state. The change is reflected in the objectives of the educational system and in the techniques used in the schools. As Israel enters a new stage, a conflict is emerging. The idea of equality—as important in Israel as in the United States—is clashing with the need to introduce selective education. The need is heightened by pressures exerted by rapid advances in other societies. It is likely that these pressures will lead to an increase in differential education and to a decline in the general use of such educational techniques as work.

NOTES

1. J. Ben David, "Report of the Research Project on Youth Movements in Israel." *Transactions of the Second World Congress of Sociology*, Vol. I. London: International Sociological Association, 1954.

2. S. N. Eisenstadt, *The Absorption of Immigrants*. London: Routledge and Kegan Paul, Ltd., 1954.

3. Amitai Etzioni, "Agrarianism in Israel's Party System," *Canadian Journal of Economics and Political Science*, XXIII (August, 1957), 363-75.

4. J. E. Floud, A. H. Halsey, and F. M. Martin, *Social Class and Educational Opportunity*, pp. 31-61. London: Heinemann, 1956.

5. Government Yearbook, 5716/1955. Jerusalem: The Government Printer, 1955.

6. David B. Hawk, "Specialization in American Higher Education and the

'General Education' Movement," *Journal of Educational Sociology*, XXVIII (October, 1954), 19-24.

7. Noach Nardi, *Zionism and Education in Palestine*. New York: Bureau of Publications, Teachers College, Columbia University, 1934.

8. Noach Nardi, *Education in Palestine*, p. 89. Washington: Zionist Organization of America, 1945.

9. Palestine. Department of Education, *Annual Report*. Jerusalem: Government Printing, 1942/1943, p. 5 and 1943/1944, p. 6.

10. Lawrence G. Thomas, *The Occupational Structure and Education*, pp. 231-51. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1956.

11. N. S. Timasheff, "Higher Education for What?" *Journal of Educational Sociology*, XXIX (October, 1955), 75-82.

12. W. L. Warner, R. J. Havighurst, and M. B. Loeb, *Who Shall Be Educated?* New York: Harper & Bros., 1944.

13. For another study with a similar focus, see Burton R. Clark, *Adult Education in Transition*, Los Angeles: University of California Press, 1956.

14. In Israel, primary schools have eight grades for children from six to fourteen years of age. Secondary schools have four grades for students from fourteen to eighteen years of age. Unless otherwise specified, the term *schools* will include primary as well as secondary schools. *High school* and *secondary school* will be used interchangeably.

15. On means of mobility, see S. M. Lipset and Reinhard Bendix, *Social Mobility in Industrial Society*, especially Chapter 1. Berkeley: University of California Press. Forthcoming.

16. For a discussion of youth orientation to collectives, see S. N. Eisenstadt, *From Generation to Generation*. Glencoe, Illinois: Free Press, 1956, especially pp. 242 and 246.

17. This problem is discussed from another angle by Amitai Etzioni in "The Organizational Structure of 'Closed' Educational Institutions in Israel" *Harvard Educational Review*, XXVII (Spring, 1957), 107-25.

Motivation for College in High-School Boys

A disconcerting fact has been abroad for some time. Many of our most able high-school graduates are not going on to college. For every qualified high-school graduate in the top quarter of his class who does go to college, another equally qualified graduate ends his formal education in high school (3). It is not hard to understand why this fact is disconcerting.

Higher education, we know, is a training ground. College graduates find their way to positions in business, government, industry, science, and the professions. The well-being of society is best served when the men and women in these posts have the highest personal and professional qualifications available. When capable students lack preparation for such responsible posts, society is denied the services of talented members in positions where talent deserves high priority.

This loss robs the professions and vocations of valuable recruits, but far from ending here, the loss extends to our civic life, for higher education can enrich this realm too. The liberal arts studies of college provide understanding that helps citizens in a democratic society to make wiser decisions. Thus, when capable students fail to receive the training that will enable them to make the most of their talents, for whatever reason, the world of professions and vocations and our civic world are the poorer.

We are now seeing a widespread, intensified search for talented

EUGENE STIVERS is assistant professor of education at Los Angeles State College, Los Angeles, California.

young people—a quickened concern that these young people be found, trained, and placed in appropriate positions. Our concern may not spring entirely from the desire to improve civic and professional services, but our anxious search does add urgency to the question: "Why aren't more of our qualified young people going to college?"

The question has been answered in a general way. We know that the percentage of young people from the middle social class who attend college is greater than the percentage from the lower or working class. Many reasons have been offered for this disparity: financial disability; distance from college; lack of social expectation or pressure; prejudice of one sort or another—religious, ethnic, or racial. However, several studies indicate that one other barrier is more serious than any of these. That barrier is lack of motivation for a college education (3). Allison Davis asserts that members of the middle class are more highly motivated to achieve than members of the lower class (1). This motivation may be directed into various socially approved channels, one of which is higher education.

The study reported here was undertaken in the hope of finding more sharply focused explanations than those offered in the past. It was felt that perhaps a study of able young high-school students who do want to go to college might add to our understanding of the problem (7). The present study, which was limited to high-school students in the upper quarter of their class in academic ability, was designed to test the following hypotheses:

High-school students who want to go to college have a higher social status than those who do not want to go to college. In other words, the desire to go to college originates in a certain subculture—in the middle class rather than the lower class.

High-school students who want to go to college show signs of having greater need for achievement than those who do not want to go to college. That is, the desire to go to college is based on the desire to achieve, the need to accomplish.

High-school students who want to go to college see themselves as having had experiences concerning college that are different from the experiences of young people who are not interested in higher education. The college-bound student has had closer relationships with a greater variety of persons who more often set college as a standard of achievement for him; and he has more confidence that he can achieve this standard set for his future.

In brief, then, our hypotheses stated that the desire to go to college typically originates in the middle class, arises from the desire to achieve, and is enhanced by certain experiences which suggest that going to college is rewarding.

Our study was made in a midwestern high school, the only public high school in a city of forty-four thousand. Research centered on the top 25 per cent of the boys and girls in tenth grade. Students were chosen on the basis of their academic potential, a rating obtained by averaging scores on the Science Research Associates Primary Mental Abilities test, the Davis-Eells Games, the Goodenough Draw-a-Man Test, and the Thurstone Concealed Figures Test.

In all, ninety-five students were selected for the study—fifty girls and forty-five boys. Each student was questioned directly and indirectly about his plans for school and work. On the basis of the responses, students were classified as "motivated for college" and "not motivated for college."

Most of the students who were looking forward to college planned to enter an occupation that required higher education. The other students expected to get brief training or to take a job immediately. From these two groups, researchers excluded three girls and three boys who, though intellectually qualified, lacked other personal qualities essential for college—steady work habits, self-confidence, social adjustment, and ethical character. Three additional students were also excluded from the study—one boy and two girls whose school and job plans were vague or contradictory.

The final group was made up of 86 students, 45 girls and 41 boys. Of these, 32 girls and 31 boys were classified as "well motivated for college" and 13 girls and 10 boys were classified as "non-motivated

for college" (3). Though these students had similar qualifications for higher education, they differed in their educational and occupational goals.

The social class of each student was determined by means of Warner's Index of Status Characteristics, an index based on occupation, source of income, type of housing, and area of residence. Students were assigned to a social class on the basis of the father's index (5).

The students' desire to achieve was gauged by using McClelland's procedure for the measurement of "*n* Achievement." This method is designed to measure the need for achievement indirectly. Students view pictures flashed briefly on a screen and write imaginative stories on what they have seen. Researchers analyze the stories and score them on the basis of the quality of the imagery. Imagery that indicates achievement is defined as any statement that suggests that someone in the story is striving successfully toward a standard of excellence. A character in the story may be struggling to do a better job, to get ahead in the world, or to achieve some other goal (4).

To learn which experiences led students to perceive college as rewarding, interviews were scheduled. For analyzing this part of the study the following variables were selected:

Generality: How many different socializing agencies—family, school, peer group, mass media, for example—set college as a standard of achievement for the student?

Number: How many persons in these agencies set college as a standard of achievement for the student?

Relationship: How close was the student to these persons?

Frequency: How frequently did these persons set college as a standard of achievement for the student?

Anticipation: Did the student expect to achieve the college standard set for him?

Various instruments were used to obtain other pertinent information about the students. A report of the findings on the girls in the sample is in preparation. The report presented here deals with the boys.

The boys in the sample were of the middle and lower social classes, and most of the boys included in the study were Protestants of

north European ancestry. Nearly all of them lived within the limits of the city in which the high school was located. About half of them were only children or the first child in a family with two or three children.

The study disclosed that the boys who were well motivated for college were not significantly higher in social class than were the boys who were not motivated for college, but the college-bound boys did have a significantly greater need for achievement. Further, the latter perceived that a significantly greater number of persons representing significantly more socializing agencies—such as the family, the peer group, and the school—had set college as a standard of achievement for them, particularly in high school. The college-motivated boys felt close to those who held up the goal of higher education but apparently no closer than the non-motivated boys felt to those who set college as a goal for them. The boys who were well motivated for college did not think that this goal had been set significantly more often, nor did they anticipate significantly greater success in achieving it than did the boys who were not motivated for college. In other words, the significant differences between the two groups of boys were in the number and variety of persons who held up the goal of higher education.

The study revealed other significant differences between the boys who were bound for college and their classmates who were not. These differences, though not directly related to the hypotheses of the study, give a more detailed picture of the college-bound boys.

To begin with, they had a higher composite score on tests of ability to succeed in school; that is, their chances for academic success were greater. The higher scores may have been a result of their greater motivation for high scores. At the same time, this higher academic potential may have been antecedent to their motivation to achieve, since ability to do well may result in a consistent desire to do well.

The boys who wanted to go to college had a higher score on the communality scale of the California Psychological Inventory. This

scale measures the degree to which an individual's reactions and responses correspond to the modal pattern established for the inventory. Students who score high are considered more successfully socialized, more mature, and more responsible (2).

The boys who were college bound had a higher score on the "achievement-via-independence" scale of the California Psychological Inventory. This scale is designed to identify factors of interest and motivation that encourage achievement in any setting where autonomy and independence are desirable. Students who score high on this test tend to be seen as mature, forceful, strong, dominant, demanding, foresighted, independent, self-reliant, and superior in intellectual ability and in judgment (2).

The boys who wanted to go to college described themselves as espousing more values associated with academic and socioeconomic achievement on the V-scale, an eight-item check list developed by Strodtbeck (6). These students believed in the efficacy of human effort and planning in controlling destiny; they felt free of the kind of family loyalty and responsibility that might inhibit mobility in the occupational system; they preferred working for themselves to working in a group enterprise; and they believed in postponing immediate pleasures for the sake of long-term goals, such as an education or a career.

Finally, the boys who were interested in going to college were more active in a religious group than were the boys who were not interested in going to college.

The study revealed one puzzling similarity between the two groups of boys: they ranked about the same in social class as determined by the Index of Status Characteristics. The most important difference was in the *n*-Achievement score. These results suggest that middle-class status may not be associated with greater need for achievement. This hypothesis is supported by the failure to obtain a significant difference when *n*-Achievement scores of the middle-class and lower-class boys were compared.

This indication that a particular social-class life may not be the

basis of a stronger need for achievement and motivation for college may be explained by the fact that few students in the study belonged to the groups at either extreme of the social scale. It is possible, too, that the results apply only to boys in the upper quarter of their class in ability. However, tests of the third hypothesis disclosed experiences that are linked with the desire to go to college. The twelve boys in the lower class who were well motivated for college had a mean *n*-Achievement strength that was above average and a normal pattern of socializing agents and agencies—persons in the family, the peer group, the school, and other agencies—that set college as a standard of accomplishment. By contrast, the four middle-class boys who were not motivated for college had a mean *n*-Achievement strength that was below average. Moreover, fewer socializing agents and agencies had held up college as a standard of accomplishment.

The stories of several boys illustrate vividly these findings of the study. Paul, a lower-lower-class boy with an extremely high *n*-Achievement score said: "My father and mother never went to college. I thought I'd like to go and do better in life than they did." As a child, Paul was placed in a boys' boarding school sponsored by a Protestant denomination. The superintendent and the teachers there were demanding but warm. When Paul went to the city high school, at first he did not do so well as he had in the boarding school. "English was about my worst subject. The teacher helped me though, and I improved a lot. I consider her an important person in my life." For a time Paul considered farming as an occupation, but a careers unit in civics class dissuaded him, and he turned to engineering and mathematics, which he enjoyed. Neither of his divorced parents had ever suggested college to Paul, but two of his closest friends had college plans and the superintendent of the boys' home urged him to go. "He told me to go to college. He said I did good in school, and I ought to go."

Ralph, an upper-lower-class boy with a high *n*-Achievement score,

planned to "attend the University and study to be a musician and a music teacher." In elementary school he had little competition and did well with scarcely any effort. His divorced mother had high hopes for him; both she and his older brother were proud of Ralph's success. In high school, apart from some difficulty in geometry, he continued to do well, especially in music. His mother and brother occasionally suggested college to him, and several of his best friends planned to go, but his greatest sources of encouragement were his music teachers and his own accomplishments in music.

I once wanted to be a farmer. Father was one, and also a couple of uncles. But when we moved into town my grandfather, a musician, prophesied that I'd be one too. My mother also plays and sings a lot. I didn't get interested, though, until the seventh grade when I started my private music lessons. My present teacher especially has had a tremendous effect on me. With him, I built up my interest in music, and it's never dropped down. He has talked to me many times about going into music, and he told me that I'd have to choose between professional music and teaching. He built me up, maybe a little too much. After all, I'm no child prodigy; neither am I an idiot. To sum it up, my teachers have influenced me to become as good as they are. Dick [his best friend, who is also a good student and a musician] is an influence because whatever is good for him is good for me. And my ability to play and strive to perfect music and my understanding of music is an influence on me.

On the other hand, Tom, an upper-middle-class boy with a below-average *n*-Achievement score, plans to "help Dad on the farm for a while, probably, then get a job in town. I'm not sure what kind. Then I'll try for something better and advance as much as I can." Tom's elementary-school years were spent in a rural school, where he did good work. In high school he did fairly well, though his teachers thought that he should do better. "I usually don't do as well in English as in other subjects," he said. His mother used to talk about college but has not mentioned the subject for several years. No other adult ever suggested that he attend college, and none of his close friends were going.

We've lived on a farm since I was five, so I got kind of interested in farming. And Barry [Tom's best friend] belonged to the Future Farmers last year and told me about it, so I got interested in it. But when I first came to high school I

took industrial arts, and down in electric shop I kind of got interested in that. So I joined the 4-H Club and went to electricity training school. My Dad thinks that I should get a job in town after high school; I don't know exactly what kind. Mother thinks so too; maybe some kind of carpentry work, because my father does a lot of that.

Alex, a lower-middle-class boy with a very low *n*-Achievement score said:

I haven't really got an idea of what I'd like to do, but probably something that has to do with math. I don't know. If I decided to be a doctor or a lawyer, I could be a success, but I don't believe I want to go into it. I don't like stuff like that. I wouldn't want to be a lawyer or a doctor.

In elementary school his grades, especially in mathematics, were fairly good, and several teachers encouraged him to continue in this field. At the time of the study, however, his marks were dropping, though occasionally he received good grades in his favorite subject. Both his teachers and his parents thought he ought to do better, and Alex himself said: "I haven't lived up to my own standard, either. I think I play around quite a bit in class." None of his close friends planned to attend college, and no adult except his father ever encouraged him to go. "He'd like for me to go to college and be a lawyer or doctor, but he doesn't talk about it too much."

This study of academically capable tenth-grade boys in a mid-western high school supports the view that the desire to go to college is related to a strong need for achievement.

What does the study tell us of the student who lacks motivation for college? Is his motivation directed toward goals other than higher education? Not necessarily. The student who lacks motivation to go to college is likely to lack motivation for achievement of any kind.

What does the study tell us of the student who wants to go to college? Our conclusions agree essentially with McClelland's assertion that motivation for high achievement develops when a child can compete successfully with standards of excellence that people important to him set often, beginning early in life (4). The student who wants to go to college is responding to a desire to achieve that

is directed toward college. The goal seems to be a result, not of middle-class socialization in general, but more particularly of certain experiences with parents, teachers, classmates, and others who, as early as elementary-school days, set college as a standard of achievement for the student.

NOTES

1. Allison Davis, "Socialization and Adolescent Personality," *Adolescence*, pp. 198-216. Forty-third Yearbook of the National Society for the Study of Education, Part I. Chicago: Distributed by the University of Chicago Press, 1944.

2. H. G. Gough, *California Psychological Inventory Manual*. Palo Alto, California: Consulting Psychologists Press, Inc., 1957.

The California Psychological Inventory is a true-false, pencil-paper test consisting of 480 items that yield 18 standard scores. Each scale is intended to cover one important facet of interpersonal psychology, and the total set of 18 is intended to provide a profile of an individual's interaction. The scales are grouped into four broad categories: measures of poise, ascendancy, and self-assurance; measures of socialization, maturity, and responsibility; measures of achievement potential and intellectual efficiency; measures of intellectual and interest modes. Descriptions of the scales are derived from projects in which persons were studied and rated by psychologists whose observations were then correlated with the scores of the assesseees on the California Psychological Inventory. Standard scores are based on the responses of about 14,000 individuals.

3. R. J. Havighurst and B. L. Neugarten, *Society and Education*. Boston: Allyn & Bacon, Inc., 1957.

4. D. L. McClelland and others, *The Achievement Motive*. New York: Appleton-Century-Crofts, Inc., 1953.

5. W. L. Warner, M. Meeker, and K. Eells, *Social Class in America*. Chicago: Science Research Associates, 1949.

6. This scale was prepared by Fred Strodbeck of the Department of Sociology of the University of Chicago. A description of his V-scale and its uses will soon be available.

7. This research was initiated and supervised by Robert J. Havighurst and other members of the Committee on Human Development of the University of Chicago, assisted by Paul H. Bowman and others of the Quincy Youth Development Commission.

English and Social Studies—or Core? Which for Better Basic Skills?

A high-school student is drawing up his program. He has a choice: English and social studies or core. Which should he choose? What advice can parents and teachers give him? Their counsel will naturally depend on what they know about these courses. What do we actually know about these subjects that will help students make a wise choice? Which, for example, gives students a firmer grasp of communication skills? The question is a straightforward one. Can we give a sound answer?

A sound reply requires carefully designed and carefully controlled experiments. Unhappily such experimentation is seldom possible in the public schools. Instead, educators are compelled to piece together estimates from whatever evidence is at hand. The evidence at hand is usually data from routinely administered standardized tests. Yet, for evaluating these programs, standardized tests have limitations.

The first question to ask before we advise students is an obvious one. What is a core program? Curriculum specialists do not agree (4). Bossing (1) suggests that a core program is, first of all, an experience curriculum. He goes on to say that it is based on problems of personal and social concern that permit genuine problem-solving activities by individuals and groups. The core program, he continues, provides for student-teacher planning as well as co-operative study. A wide range of informational sources, materials, and appropriate

NED A. FLANDERS is an associate professor in the College of Education at the University of Minnesota.

activities are covered without regard for subject-matter boundaries. Finally, in these programs the teacher provides considerable group and individual guidance.

Clearly, a true core program departs radically from more conventional programs even though it is based on widely accepted principles of instruction. It is not surprising then that, of 519 schools reporting some kind of core program, Wright (13) found that only 43 per cent were conducting genuine core programs; the others retained a subject-matter orientation. Probably less than 5 per cent of the high schools in the country have true core programs (14).

Comparisons of conventional teaching methods with activity or experience methods in the elementary school have clearly established the effectiveness of the newer approaches for younger pupils. Geyer (8) reached this conclusion after summarizing thirty studies published before 1936. In a study made in New York City schools, Sells and others also (12) reported superior achievement in activity programs.

More recent studies report the results of core programs in high schools. Using a design that included matched pairs and control of the teachers' ability, Capehart and others (2, 3) found no significant differences in students' scores on a wide variety of standardized tests. However, consistent trends seemed to favor the core program. Gale (7) found that core graduates did as well as non-core graduates on college-entrance examinations, in college, and in high school. However, from the information in his published article, it is difficult to evaluate his research in terms of experimental controls. Kelley and Beatty (9) report adequate achievement of basic skills by core students in a junior high school. For three years, Mennes (11), using a matched-pair technique, studied the core programs of three schools in Wisconsin. Tenth-grade core students, he found, learned more skills and more facts, as measured by the Kniss World History Test, the Essentials of English Test, the Barrett-Ryan English Test, and the Every Pupil Test in spelling and vocabulary. Other tests showed

about equal achievement in core and control classes, though most trends favored core.

Educators who want to develop more effective learning, either through core or through more conventional programs, will find a study by Fair exceptionally useful (6). The study tested four hypotheses concerned with awareness of social conditions, ability to apply fact and value generalizations in a social context, willingness to take a democratic position on a social issue, and interest in social affairs. Imaginative tests were designed to assess each of these hypotheses, which represent outcomes that are presumably stressed in core programs. The tests were administered to students enrolled in conventional programs and to students in core programs from Grades IX through XII in an Illinois high school. Scores on one item—willingness to take a democratic position—showed significant differences in favor of the core program in the twelfth grade, but most of the other comparisons were not significant. In commenting on these results, Fair wrote:

It seemed that core groups did not fully utilize the possibilities for flexibility within their curriculum but followed, instead, familiar and customary patterns. . . . Core groups did not usually plan many experiences at the ends of units for generalizing many of the understandings, values, or abilities which had been learned. . . . Then, too, because of failure to make explicit the concepts, values, and abilities to be learned, it proved difficult for core groups to enrich and integrate what was learned in several fields [6: 352-53].

Teachers in both core and non-core programs expected to use the results of the study in improving their programs.

Core programs differ considerably in definition and implementation. Hence, the learning activities in each core classroom are likely to be unique; the results of an evaluation are likely to apply primarily to the participating classrooms; and the findings of a single study of one core program can hardly be generalized to other core programs. Still, the results of the research reviewed here show a fairly consistent trend. True, further study may be necessary to establish the nature of the core program and to identify its advantages, but

meanwhile parents and teachers may properly ask whether core programs neglect basic communication skills. This is the issue in the present study.

The research for the study was carried on in a junior high school with an enrolment of about thirteen hundred students in seventh, eighth, and ninth grades. The school is located in an above-average socioeconomic district of a large city. The regular testing program included the Otis Quick-Scoring Mental Abilities Tests (Beta Form), which are given to all entering seventh-grade students, and the Iowa Every-Pupil Tests of Basic Skills, which are given to all entering seventh-graders and to the entire student body late in the spring of each year.

The students in this school were permitted a choice in their program. They could register for a two-hour core class or for separate one-hour classes in English and social studies. Students made their choices at the beginning of each year and at that time were free to shift from one program to another. Thus, during their three years in junior high school, students might have pursued any one of the following sequences: three years of one-hour classes in English and in social studies; three years of core classes; two years of core followed by one year of one-hour classes in English and in social studies; or one year of core followed by two years of one-hour classes in English and in social studies. Each student in the study followed one of these sequences. The data analyzed covered three school years, from the fall of 1952 through the spring of 1955.

How did students in core classes score in basic communication skills? Did core students rate as high as students in conventional classes? To answer these queries, the achievement scores of students in the four groups were compared.

Since all students had taken the Iowa Every-Pupil Tests of Basic Skills at entrance to seventh grade and again at the end of each school year, achievement scores in basic language skills were already available. Tests in the Iowa battery yield scores on reading compre-

hension and vocabulary; on map reading and use of graphs, references, indexes, and the dictionary; on punctuation, capitalization, English usage, and spelling. In addition to these eleven scores, the tests yield a composite score on total language skills. Data on the students' mental ability, according to the Otis Quick-Scoring Mental Abilities Tests, were available from the regular school testing program.

In the studies reviewed earlier in this article, the method of control most commonly used was the matching of pairs of students in two programs. The present study attempted, by use of analysis of variance and covariance, to control differences in mental ability, in rate of learning, and in proportion of boys to girls.

Two separate analyses were made. The first, covering three school years, compared the achievement of the four groups and included test scores of 307 students. The second, covering only the first two years, compared achievement in core groups with achievement in the non-core group and included test scores of 187 students. The first analysis, it will be seen, probably failed to account for the higher rate of learning of above-average students in contrast to the lower rate of learning of below-average students.

In the three-year analysis, which covered all four sequences of instruction in Grades VII through IX, the test scores of entering seventh-graders on the Iowa tests were compared with their scores on the same tests at the end of ninth grade. To make this comparison, the following procedure was used. The scores of the entering seventh-graders were subjected to analysis of variance separately for boys and for girls. The purpose of this step was to discover whether the means of the four groups differed significantly. Scores of ninth-graders were likewise subjected to analysis of variance.

When significant differences in means were disclosed for either seventh or ninth grade, an analysis of covariance was used to determine regression equations. By this method, the combined predictor variables—mental ability according to the Otis tests and performance on the Iowa tests upon entering the seventh grade—were used to pre-

dict ninth-grade performance on the Iowa tests. The mean scores for performance of the ninth graders were then compared separately by sequence group and by sex with the predicted means. This comparison was made to determine whether earlier differences remained significant after adjustment for performance at entrance to seventh grade.

On the twelve scores of the Iowa tests, the four groups showed no significant differences in use of references and graphs, English usage, and spelling. There were significant differences favoring boys in use of graphs and girls in spelling. A multiple-range test (5), based on the predicted and observed means for ninth grade, was used to test the significance of differences at the .01 level for all sequence pairs for the remaining eight scores. The multiple-range test revealed significant differences that favored the group with three years in the conventional program over the group with three years of core on all eight test scores. When the scores of the straight core group were compared with the scores of each of the groups that had followed a mixed core and non-core sequence, it was found that differences significant at the .01 level favored both mixed groups in achievement (even those in core for two years) in reading comprehension, vocabulary, use of index, punctuation, capitalization, and total language skills. No significant differences were found in favor of the straight core sequence.

In nearly all comparisons, straight core students made less progress than students in the other three groups. However, the evidence on the relative effectiveness of the core program and the conventional program is not consistent. If the significant differences are attributed to the contrasting methods of instruction rather than to the differences among students, one would expect to find at the very least a few significant differences between the group with three years of English and social studies and the group with two years of core and one year of English and social studies. This result might well be expected, since the latter group had two years of core. However, the

data did not reveal significant differences that can be attributed to differences in method; therefore, another explanation must be sought.

One possible explanation concerns the use of regression equations in making predictions. For this analysis, the regression equations were calculated in the usual manner and were based on students' intelligence quotients and their test scores at entrance to seventh grade and at the end of ninth grade. In a loose sense, the slope of the regression equation is an indication of the rate of achievement. Thus this procedure assumes that a single rate of achievement applies equally to all four groups. Since the rate of achievement is usually directly proportional to initial ability, one might reason that the greater the initial differences among the sequence groups, the less a single regression equation represents the differential rates of achievement. If the students in a sequence group are of above-average ability, the predicted mean will underestimate actual achievement; if the students are of below-average ability, the predicted means will overestimate their actual achievement.

In a properly designed experiment students would be assigned to the various sequences at random and only one reasonable conclusion could be drawn from the analysis of data. However, when the data studied is acquired from the regular school testing program, as in this study, random assignments are precluded. Analysis of the data in this study revealed that the straight core group scored significantly (.01) lower in initial achievement and had significantly (.05) lower intelligence quotients. Therefore, it was decided to make a second analysis comparing only two sequences: core and non-core.

The second analysis was limited to a two-year period and included only the data on those students who, at the end of eighth grade, had completed two years in either the conventional program or the core program. Thus the non-core group was made up of students with three years of one-hour classes in English and social studies. The core group included a combination of students in the three-year core sequence and students with two years of core followed by one year

of one-hour classes in English and social studies. With this combination the ability factor was more evenly matched.

In this analysis only the test scores on reading comprehension and the composite scores on total language skills were compared. These scores were used because they represented achievement in several communication skills and because in the three-year analysis these scores had revealed significant differences. Besides, the use of only two sets of scores reduced the amount of time and effort needed for calculations.

The procedure in the two-year analysis followed fairly closely the procedure used in the three-year analysis. The test scores of entering seventh-graders were compared with their scores on the same tests at the end of eighth grade. As before, the scores at each grade level were subjected to analysis of variance separately for boys and for girls and observed and predicted eighth-grade means were compared.

For greater control of differential rates of achievement, regression equations were calculated separately for students with intelligence quotients of 114 or higher and for students with intelligence quotients of 107 or lower.

The comparisons showed no significant differences in achievement in reading comprehension between core and non-core groups. When scores in total language skills were compared for girls of below-average ability who had enrolled in core and girls who had not, the results favored the core group. Results of other comparisons of the two programs were not significant.

Within the core group, in three out of four comparisons, students of below-average ability achieved more than did students of above-average ability. Girls of below-average ability achieved significantly more than girls of above-average ability in reading comprehension (.05) and in total language skills (.01). Boys of below-average ability achieved significantly (.01) more in reading comprehension than did boys of above-average ability.

The results of the three-year analysis contradict the findings of the two-year analysis. Which findings should be accepted? The answer depends on the assumptions one wishes to make on the use of regression equations. Since the statistical procedures of the two-year analysis provided greater control over the factor of ability, the author is disposed to accept the conclusion that students in core courses and students in conventional courses do not differ significantly in achievement in basic skills. At any rate, in this particular school during the period under study, achievement in basic skills under the core program equaled achievement in the conventional program over the two-year period. Differences over the three-year period cannot be associated with differences in teaching method.

The results of this study together with findings of other studies reviewed here indicate that in several independent situations achievement in core classrooms equaled or exceeded achievement in more conventional classrooms. Evidence of this kind should encourage thoughtful teachers—whether or not they are taking part in core programs—to explore more effective methods, secure in the knowledge that, in the programs reviewed here, achievement in basic skills did not suffer. Parents whose children have a choice of program should feel more assured of their achievement in basic skills, whatever the students' choice—English and social studies or core. X

Implications for Ed

NOTES

1. Nelson L. Bossing, "What Is Core?" *School Review*, LXIII (April, 1955), 206-13.
2. Bertis E. Capehart, Allen Hodges, and Norman Berdan, "An Objective Evaluation of a Core Program," *School Review*, LX (February, 1952), 84-89.
3. Bertis E. Capehart, Allen Hodges, and Robert Roth, "Evaluating the Core Curriculum: A Further Look," *School Review*, LXI (October, 1953), 406-12.
4. "The Curriculum: Organization and Development," *Review of Educational Research*, XXIV (June, 1954), 208-9. A brief review of fairly recent articles on the core curriculum.
5. David B. Duncan, "Multiple Range and Multiple F-Tests," *Biometrics*, XI (March, 1955), 1.

6. Jean Fair, "The Comparative Effectiveness of a Core and a Conventional Curriculum in Developing Social Concern," *School Review*, LXII (May and September, 1954), 274-82, 346-53.

7. Raymond Gale, "The Progress of Students and Graduates of a Core Curriculum," *School Review*, LXIII (October, 1955), 384-87.

8. Denton L. Geyer, "The Results of Activity Instruction: An Interpretation of Published Findings," *Journal of Educational Research*, XXX (November, 1936), 188-97.

9. Arthur C. Kelley and Robert E. Beatty, "Here's Proof That Core Program Students Learn Basic Skills," *School Executive*, LXXII (February, 1953), 54-55.

10. Edward A. Krug, Clifford S. Liddle, and Quentin Schenck, *Multiple-Period Curricular Organization in Wisconsin Secondary Schools*. Madison, Wisconsin: School of Education, University of Wisconsin, 1952.

11. Arthur H. Mennes, "The Effectiveness of Multiple Period Curricular Practices in High School English and Social Studies," *Journal of Educational Research*, L (September, 1956), 59-69.

12. Saul B. Sells, J. J. Loftus, and Louis Herbert, "Evaluative Studies of the Activity Program in the New York City Public Schools: A Preliminary Report," *Journal of Experimental Education*, IX (June, 1941), 310-22.

13. Grace S. Wright, *Core Curriculum Development: Problems and Practices*. Office of Education Bulletin 1952, No. 5. United States Department of Health, Education, and Welfare. Washington: Government Printing Office, 1952.

14. Krug and others (10) stated that 10 per cent of the schools in Wisconsin reported core programs in 1952. According to Wright (13), however, less than half of these are likely to be true core programs.

A New Center in Comparative Education

The University of Chicago has established a center for the study of education in other lands.

Today there are compelling reasons for taking a lively interest in what is happening in schools and colleges abroad. Nations over large parts of the earth are changing with a rapidity heretofore unknown. If we are to understand the changes that are taking place so swiftly in the lands around us, we shall have to know and understand what is going on in the classrooms of these nations.

It is true that education is influenced by many forces—social, political, economic, and religious, among others. But it is also true that the educational program itself is a major force in modifying the society it serves. Changes in society are interlocked with changes in the school. What adds to our understanding of one adds to our understanding of the other.

We have already noted the unparalleled speed of the changes that are sweeping across nations. Another fact should be noted about changes in our world. In many modern nations, planning is playing an unprecedented role in social and economic change. Planning in these crucial areas is more likely to be sound if it is undergirded by a broad knowledge of education in varied cultural settings. Such knowledge can be an invaluable aid to men and women who are taking an active part in shaping the conditions of social and economic life.

An intimate knowledge of educational philosophy and practice in other lands can have practical value for Americans. Today more and more Americans are accepting important assignments that take them abroad. The American who has an understanding of the educational goals of the country where his responsibilities take him has an important asset for making sensitive and responsible decisions.

Finally, intercultural study and exchange of ideas can contribute enormously to the improvement of educational systems throughout the world. By pooling information, educators can create a rich re-

source for colleagues everywhere who may be seeking better ways of meeting the educational needs of children and youth.

The Comparative Education Center at the University of Chicago will sponsor research and provide opportunities in advanced study. The program of the Center is open to graduate students and post-doctoral fellows.

The seminar on comparative education is an important feature of the program. Students and faculty members taking part in the seminar will meet throughout the year. The group will study the schools and the society of individual countries and make comparisons of the educational and social systems of several countries. Each year the seminar will make a thorough study of the schools and the society of one or two countries—a European nation or a newly developing nation in Africa, Asia, or Latin America. The comparative studies will take into account educational problems, school functions, and school methods. Comparisons will cover primary and secondary schools, higher education and adult education, as well as methods of inculcating the values of society and education for vocations, literacy, and citizenship.

In the seminars, Chicago faculty and students will be joined by visiting professors from countries on the study program and graduate students from several non-American lands.

Students will be admitted to the seminar by application. The student should, of course, be interested in comparative education, and generally a Master's degree or its equivalent, will be required. Applicants who are not candidates for a degree may be admitted to the seminar for a term if they can contribute to the sessions and if the sessions can contribute to the professional growth of the student.

The seminar will be supplemented by special courses which will be developed as needed. "The School in the Social Order," a course offered in the Department of Education, provides historical and philosophical background for studying the place of the school in contemporary societies.

The Center offers two types of fellowships—fellowships for resident study and fellowships for study abroad. Resident fellowships are available for non-American students who want to pursue full-time graduate study in comparative education. Allowances for resident fellows cover reasonable living expenses, tuition costs, and travel expenses.

Fellowships for study abroad are open to candidates who have done outstanding work at the Center or elsewhere. Holders of fellowships will be expected to add to their background through experience in other countries and to do research that will contribute to our knowledge of comparative education. Allowances will be paid for travel and living expenses.

A limited number of assistantships are available for highly qualified students who want to work in comparative education. The allowances depend on the amount of service.

The Comparative Education Center is part of the Department of Education. However, an interdepartmental advisory council will assist the director in establishing policies and in directing research. The activities of the Center and the instructional program in comparative education will be developed by C. Arnold Anderson, the director, with the assistance of Francis S. Chase, Robert J. Havighurst, Herman G. Richey, and other members of the Department of Education. The Center will also draw on the services of faculty members from other departments who have a specialized knowledge of the countries under study. Among the departments that will be called on are the Departments of Anthropology, Economics, Geography, History, and Sociology.

A grant from the Ford Foundation will assist in the development of the Center and in the support of a five-year program of research.

The Sniper's Nest

EDUCATION AND THE LAW OF INCREASING RETURNS

Recent educational controversies have covered a wide range of topics. But the discussions seem to have ignored one fundamental fact: the educational equivalent of what economists call the law of increasing returns. Discussions frequently concern the number of years subjects are to be studied, and the contenders argue for more of this or less of that. But they apparently assume that for each unit of time and effort that the student invests in a given subject, he receives an equal unit of return. This assumption is probably false.

In many operations (including, I believe, nearly all educational ones) the ratios of investment to return do not remain constant over a period of time. Small businesses usually reach the point where additional capital increases the return far out of proportion to the final sum added to the total investment. Similarly, a gardener often finds that one final slight improvement in the consistency or fertility of his soil is the pay-off for months or years of previous effort.

In education, an obvious example of this phenomenon appears in the study of foreign languages. For various reasons, the common pattern of the study of Latin, for example, became the two-year program. Once the two-year program became common, the esteem in which Latin was held tended to decline still further. The increasing unpopularity of Latin has not been, as is sometimes alleged, the result of machinations by educationalists who were piqued by having flunked Caesar in their youth. Rather students, parents, and faculties, in increasing numbers, came to feel that the returns from two years of study are too small. And I believe they are right.

If I may argue from personal experience as one who studied Latin from elementary through graduate school, I am well aware of the values of this study. But, as best I can now recall, those values certainly did not accrue at the end of two years of high school—even though those years had been preceded by several years' study of Latin in the elementary school. By the end of my sophomore year in high school, I certainly had not yet acquired sufficient command of the language to be able to read it fluently. I had sampled almost nothing of Latin literature. Whatever insights I had gained into Roman history and civilization through working with materials in the original were very limited. These returns came later, as the next few years brought recompense, not merely for themselves, but also for my previous labor.

So it is with knowledge and skill in most areas, both in and out of

school. Even in games, the player has to achieve a certain amount of proficiency and dexterity before playing brings fun rather than frustration, as anyone knows who has watched a three-year-old trying to play catch. The same principle holds for more exalted competencies. A certain degree of mastery, a certain level of skill, a certain amount of knowledge must be acquired before the possession of that knowledge or skill pays off.

The curve that delineates this passage from the period of increasing returns through the point of maximum returns to the point of diminishing returns (if this latter is ever actually reached in formal education) undoubtedly varies from area to area in the curriculum. Some subjects may pay off in the relatively short run, though I think this phenomenon is less common than we—and certainly our students—often hope. Other subjects may demand a relatively long-term investment before maximum returns begin to flow back to the student. For these subjects, a third year may be worth four or five times as much as the preceding two.

We still know too little about this matter of returns from different subjects at different educational levels. Too often we require or advise students to take a given amount of study of some subject merely because we accept current practice or because we can most easily wedge this much of a subject into a particular student's schedule or into a given curriculum. Both advice and discussion seem futile, however, until we know more than we now do about the general pattern of returns for given amounts of study of different subjects by students of various sorts. The present cries of "more science" or "more math," for example, have little sense unless we know how much more will produce what return.

HAROLD B. DUNKEL

Educational Writings

BOOK REVIEWS

D. J. O'CONNOR, *An Introduction to the Philosophy of Education*. New York: Philosophical Library, 1957. Pp. vii+148. \$3.75.

This little "primer," as the author calls his book, was written by a professor of philosophy at the University of Liverpool. The author's philosophic position is that of logical analysis though not in the "rough-and-tough" tradition of Ayer and some other members of the British school. In fact, it probably says something about the book to report that, though this reviewer is not a logical analyst and is frequently rendered dyspeptic by their writings on education, he feels very enthusiastic about this little volume. (Perhaps this reaction merely tells the logical analyst that the doctrine has not been presented with sufficient purity and severity.)

The general scope of the book is probably sufficiently suggested by simply quoting the chapter titles: "Philosophy and Education"; "The Nature of Philosophy"; "The Justification of Value Judgments"; "Theories and Explanations"; "What Is an Education Theory?"; "Some Questions of Morals and Religion." An outstanding feature of the book is its clean, clear English style.

At the beginner's level, this brief volume of 140 small pages is the best explication I have seen of the contribution of logical positivism to the study of education. The work is not a mere presentation or summary of dogma but a competent example of philosophizing from a given point of view. Teachers who share this point of view will certainly find the book useful. But its brevity, clarity, and objectivity will recommend it to all teachers of philosophy of education, whatever their philosophic persuasion, for, as an introduction to this position, the volume can serve as a brief and useful supplement to whatever other views any of us chooses to treat.

In sum, O'Connor's "primer" is exactly what its title alleges it to be—a good introduction to the philosophy of education. As one who is usually not enthusiastic about textbooks and certainly not enthusiastic about logical analysis, the reviewer is almost surprised at the fervor with which he finds himself recommending this little book. Those who have direct or indirect interest in the philosophy of education will find it interesting.

HAROLD B. DUNKEL

University of Chicago

NEAL GROSS, WARD S. MASON, and ALEXANDER W. McEACHERN, *Explorations in Role Analysis: Studies of the School Superintendency Role*. New York 16: John Wiley and Sons, 1958. Pp. xiv+380. \$8.75.

Those of us in educational administration who have known of the School Executive Studies, a research program started at Harvard University in 1952, have been looking forward to this study—the first book-length report on the school-executive project. Certainly the program received generous fanfare; this publicity and the knowledge that 105 Massachusetts superintendents had each been interviewed for eight hours and that their 508 school-board members had also been intensively, though not as lengthily, interviewed made us feel that this could be an exciting report. We were lamentably wrong; the book has the impact of a limp feather.

What went wrong? The research program was quite a production, and it evidently enjoyed ample financial support. A great deal of interview and questionnaire information was collected; the IBM cards must have been run through their paces at trot, canter, and gallop; and the book is replete with figures, statistical data, and tables. The variables are defined operationally, and the book bears all the trappings of the "scientific" method. Yet one hunts in vain for ideas seminal enough to make the whole task worth the effort.

Gross and his co-authors start their book by discussing the limitations of role theory and by pleading for a more precise language for role analysis. Their chief complaint is that traditional definitions of role also postulate role-consensus; that is, these definitions imply that the members of significant alter groups agree on how they expect the actor to behave. "This assumption of consensus precludes the use of the degree of consensus on role definitions as a variable that may enter into theoretical hypotheses of relevance to a number of important social science problems" (p. 320). The authors demonstrate this point in the empirical research they report; they show, item by item, that board members do not agree among themselves on how the superintendent should behave and that the board's concept of the superintendent's role differs from his concept of that role. This information will come as no astounding news to any practicing administrator. Nor is it even new in the research literature; Sletten's study of Montana school-board members and superintendents, the Ohio State Leadership Studies, and several studies of school administrators conducted at the Midwest Administration Center have all made the same point but have made it within a broader context and have related it to some useful theoretical framework. Gross and his colleagues attempt to test several hypotheses

that concern the consensus among board members and the agreement between board members and superintendents. The investigators report the coefficient of correlation between each of these measures and other, presumably relevant, variables. However, the proffered hypotheses are essentially of an *ad hoc* type and can scarcely be said to have been derived inexorably from a rigorous theory of behavior. The authors also propose a theory of role-conflict resolution and offer empirical evidence which, they assert, supports the theory.

The various hypotheses and the "theory" sound credible enough, but the logical and statistical procedures the investigators used to test these hypotheses make it difficult to accept the conclusions with confidence. Five examples illustrate the authors' virtuosity.

In the analysis of interposition consensus (that is, consensus between the superintendent and the board), the questionnaire responses of the two groups are compared item by item, and the critical ratios and *p* values are given for these differences. So far, so good. Then a plus (+) or minus (-) sign is attached to each item, according to whether the difference between groups is in the direction predicted by the hypothesis, and a sign test is applied across items to these values. But because the items are not *independent*, the sign test is inapplicable. The authors use the sign test in this way in the three major tables of Chapter VIII and in six tables of Chapter IX.

A correlation coefficient of .60 is reported between "School Board Conformity" and "Superintendent's Job Satisfaction." To evaluate "School Board Conformity," twelve items were chosen from a School Board Performance Instrument; superintendents had agreed that these were things that a board "absolutely must" or "absolutely must not" do. Each superintendent then described his board on these twelve items; boards that fitted the superintendents' description of how boards should behave were designated as high on "conformity." Note that the board's "conformity" hinges on a description by the superintendent. The "Superintendent's Job Satisfaction" is also a description by the superintendent. These descriptions seem to be two measures of the superintendent's "satisfaction," both secured from the same source; designating one measure by a different name does not, in fact, make it different. At another point (p. 239), the authors report a correlation coefficient of .52 between "School Board Conformity" and "Proportion of School Board Members Motivated by Civic Duty." However, the latter proportion is secured from ratings by the superintendents. Obviously, the school boards that behave according to the superintendents' pro-

fessional standards are those that these same superintendents declare to be "motivated by civic duty," while boards that fail to conform are perceived by the superintendents as "motivated to represent some group" or "motivated for political experience." This same problem of confounding among variables recurs at several points in the book; the authors show no awareness of its significance.

"According to the general 'satisfaction hypothesis' we would predict that the less consensus within a school board, the more dissatisfied the school board will be . . ." (p. 214). To confirm this prediction, the authors cite a coefficient of correlation of .36 between the board members' lack of consensus about their position and their dissatisfaction with their jobs as board members. But from this same correlation, the opposite prediction would be just as tenable: that board members who are dissatisfied with their jobs tend to disagree on how they should act as board members.

The "theory" of role-conflict resolution deals with the relation between three predictors—legitimacy, sanctions, and orientation to expectations (either "moral" or "expedient")—and the criterion "behavior." Yet the evidence used to support the hypothesis deals not with how superintendents actually behave but with how they say they would behave under given circumstances. The information for all four variables is secured from the same source: the superintendents' statements. The relationships among the variables may therefore tell us something about the consistency in the superintendent's reasoning, when he deals with how he would behave in a hypothetical instance. But research evidence has repeatedly shown that there is only a negligible correlation between how the actor says he would behave and how he actually does behave—at least insofar as this behavior is perceived by significant alter groups.

The technique for measuring the superintendent's orientation to expectations deserves special mention. Each superintendent answered thirty-seven items according to the direction: "As a school superintendent, what obligation do you feel that you have to do or not to do the following things?" Five response categories were used: absolutely must, preferably should, may or may not, preferably should not, absolutely must not. The authors give each superintendent a score of 1 on each item for which he gave a mandatory response (absolutely must or absolutely must not). These scores, with a range of 1 through 30, were then split into three groups: superintendents who scored high were classified as "moralists," those who scored low were labeled "expedients," and those in between were called "moral-expedients." Much of the testing of the "theory" rests

upon the integrity of this instrument. The whole issue of "response sets" and the research literature on this subject are overlooked. One wonders, too, whether what the authors call "moral orientation" may not be akin to the "authoritarianism" measured by the F scale. Yet the authors do not seem to realize how crude their technique is.

Aside from the five shortcomings noted above, the book is characterized, in general, by a naïve acceptance, at face value, of the respondents' statements about their own motivations and the motivations of others.

The authors' references to the literature are parochial; nowhere do they show appropriate awareness of major kindred work in educational administration. The past decade has been marked by at least two major events in administration. The first was the establishment of the Cooperative Program in Educational Administration (CPEA), a broad program generously supported by the W. K. Kellogg Foundation at nine university centers, of which Harvard was one. Indeed part of the financial support for the School Executive Studies came from this source. The second important event was the expansion in the activities of the National Conference of Professors of Educational Administration (NCPEA). One of its endeavors started in 1954 and resulted in the recent book, *Administrative Behavior in Education*, edited by Campbell and Gregg. The programs of the CPEA and NCPEA were nationwide in scope. Yet Gross and his colleagues make no reference to either organization; they ignore pertinent research conducted at various CPEA centers and note none of the NCPEA work on the superintendency.

What happens when the authors do cite the work of other investigators? Their treatment of the work of Getzels and Guba provides an example. By quoting Getzels and Guba completely out of context (p. 283), Gross gives a erroneous impression of their position. Gross declares that "the Getzels-Guba approach assumes that role conflicts occur only when an actor simultaneously occupies multiple positions to which are attached conflicting expectations" (p. 284). A careful reading of these investigators' articles, of which Gross cites only one, reveals that Getzels and Guba make no such assumption. Furthermore, after Gross and his co-authors criticize the Getzels-Guba position, they offer their own theoretical scheme (on the very next page), which takes into account nothing that Getzels and Guba have not already incorporated into their formulation. The treatment of the work of Getzels and Guba is not the sole instance of the straw-man technique; the authors' belaboring of the postulate of role-consensus is another illustration.

Who is supposed to read this book? It obviously was not written for school superintendents, who conceivably might benefit from some of the practical implications of the findings. No busy administrator would have the stamina to wade through the writers' soggy prose. (Certainly the authors never *listened* to what they wrote, for their style has the cadence of a truck with one square wheel.) On the other hand, if the book was written for social scientists, the reporting of a reliability estimate to three decimal places (p. 298) and of significance requirements for correlations to three decimal places (p. 201), the explanation of the meaning of variance and reproduction of the standard machine-formula for this statistic (p. 115), and the notation of what is meant by a point-biserial correlation (p. 211) all seem precious, if not fatuous.

There is no enjoyment in castigating the authors for what they have done in this book; it is always much more comforting to say nice things or to trade in banalities, for there certainly is not sport in shooting fish in a barrel. If the shortcomings of this book represented a notable exception to what is commonly done in the name of research in educational administration, we could let the present instance pass. But the book is not an exception; the quality of the research it reports is no worse than what has been reported in several other recent studies in educational administration. If research in administration is to progress, we will have to be much more exacting in our research standards; we also will have to learn how to start with theory instead of smuggling it in through the back door after we have collected our data. Raising our research standards will be a slow and difficult process; we will never accomplish it through uncritical mutual admiration.

ANDREW W. HALPIN

University of Chicago

CURRENT PUBLICATIONS RECEIVED

Method, History, Theory, and Practice

- Abraham, Willard. *Common Sense about Gifted Children*. New York 16: Harper & Bros., 1958. Pp. xiv+268. \$3.75.
- Adler, Mortimer J., and Mayer, Milton. *The Revolution in Education*. Chicago 37: University of Chicago Press, 1958. Pp. viii+224. \$3.75.
- Andrew, Dean C., and Willey, Roy DeVerl. *Administration and Organization of the Guidance Program*. New York 16: Harper & Bros., 1958. Pp. xiv+330. \$4.50.
- Callahan, Parnell J. T. *Legal Status of Young Adults under 21: Your Rights and Duties*. New York 3: Oceana Publications, 1958. Pp. 96. \$2.00 cloth. \$1.00 paper.
- The Child: A Book of Readings*. Edited by Jerome M. Seidman. New York 16: Rinehart & Co., 1958. Pp. xiv+674. \$6.75.
- Connell, W. F., and Others. *Growing Up in an Australian City: A Study of Adolescents*

- in Sydney. A.C.E.R. Series No. 72. Melbourne, CI: Australian Council for Educational Research, 1957. Pp. xvi+240.
- Contemporary Literary Scholarship: A Critical Review.* Edited by Lewis Leary, for the Committee on Literary Scholarship and the Teaching of English, National Council of Teachers of English. New York 1: Appleton-Century-Crofts, 1958. Pp. x+474. \$5.00.
- Directory for Exceptional Children: Educational and Training Facilities.* Boston 8: Porter Sargent, 1958 (third edition). Pp. 320. \$6.00.
- Edwards, Allen L. *Statistical Analysis*, pp. xiv+234. \$4.00; *Workbook To Accompany Revised Edition of "Statistical Analysis,"* pp. iv+92. \$1.25. New York 16: Rinehart & Co., 1958 (revised).
- Grambs, Jean D., and Others. *Modern Methods in Secondary Education.* New York 19: Dryden Press, 1958 (revised). Pp. xvi+700. \$5.90.
- Gross, Richard E., and Others. *Educating Citizens for Democracy: Curriculum and Instruction in Secondary Social Studies.* New York 11: Oxford University Press, 1958. Pp. vi+592. \$6.00.
- Haag, Jessie Helen. *School Health Program.* New York 17: Henry Holt & Co., 1958. Pp. x+534. \$6.50.
- Klausmeier, Herbert J. *Teaching in the Secondary School.* New York 16: Harper & Bros., 1958 (revised). Pp. xii+500. \$5.00.
- Laybourn, K., and Bailey, C. H. *Teaching Science to the Ordinary Pupil.* New York 16: Philosophical Library, 1957. Pp. 416. \$10.00.
- Leary, Sister Mary Ancilla. *The History of Catholic Education in the Diocese of Albany.* Washington 17: Catholic University of America Press, 1957. Pp. 1+406. \$4.75.
- Lee, J. Murray, and Lee, Dorris May. *The Child and His Development.* New York 1: Appleton-Century-Crofts, 1958. Pp. xvi+624. \$6.00.
- McKinney, Fred. *Counseling for Personal Adjustment in Schools and Colleges.* Boston 7: Houghton Mifflin Co., 1958. Pp. xiv+584. \$6.00.
- May, Mark A., and Others. *Learning from Films.* New Haven, Connecticut: Yale University Press, 1958. Pp. xiv+358. \$5.00.
- Meltzer, Bernard N., and Others. *Education in Society: Readings.* New York 16: Thomas Y. Crowell Co., 1958. Pp. xiv+498. \$3.25.
- Metcalf, E. S. *How YOU Can Teach Johnnie To Read.* New York 1: Vantage Press, 1958. Pp. 84. \$2.50.
- Muldoon, Mary Warren. *Learning To Teach: A Handbook for Beginners.* New York 16: Harper & Bros., 1958. Pp. xvi+288. \$3.50.
- Orthopsychiatry and the School.* Edited by Morris Krugman. New York 19: American Orthopsychiatric Association, 1958. Pp. xii+266. \$4.00.
- Parrish, Louise, and Waskin, Yvonne. *Teacher-Pupil Planning for Better Classroom Learning.* New York 16: Harper & Bros., 1958. Pp. xii+160. \$3.50.
- Patterson, C. H. *Counseling the Emotionally Disturbed.* New York 16: Harper & Bros., 1958. Pp. xviii+458. \$6.00.
- Philosophy and Education: Modern Readings.* Edited by Israel Scheffler. Boston 8: Allyn & Bacon, 1958. Pp. xii+312. \$5.75.
- Strang, Ruth. *Group Work in Education.* New York 16: Harper & Bros., 1958. Pp. xii+322. \$5.50.
- Thralls, Zoe A. *The Teaching of Geography.* New York 1: Appleton-Century-Crofts, 1958. Pp. 340. \$3.75.
- Townsend, Leland R. *The Psychology in Juvenile and Adult Crime: A Study of Present-Day Methods of Treatment.* New York 16: Greenwich Book Publishers, 1958. Pp. 98. \$2.50.
- Wahlquist, John T., and Ryan, Patrick J. *An Introduction to American Education.* New York: Ronald Press Co., 1958 (second edition). Pp. x+478. \$5.00.
- White, Verna. *Studying the Individual Pupil.* New York 16: Harper & Bros., 1958. Pp. xviii+238. \$4.00.
- Wiggins, Sam P. *Successful High School Teaching.* Boston 7: Houghton Mifflin Co., 1958. Pp. xiv+380. \$5.00.
- Winslow, Robert W., and Dallin, Leon. *Music Skills for Classroom Teachers.* Dubuque, Iowa: Wm. C. Brown Co., 1958. Pp. xii+142. \$2.75.

Publications for High-School Teachers and Students

- Camm, F. J. *Mathematical Tables and Formulae*. New York 16: Philosophical Library, 1958. Pp. 144. \$2.75.
- Carter, Homer L. J., and McGinnis, Dorothy J. *Building a Successful College Career*. Dubuque, Iowa: Wm. C. Brown Co., 1958. Pp. x+162. \$2.50.
- College Outline Series: *How To Take Examinations in College* by J. N. Hook, pp. viii+180, \$1.25; *Labor Economics and Industrial Relations* by Robert D. Leiter, pp. xvi+320, \$1.95. New York 3: Barnes & Noble, 1958.
- Corwin, Edward S., and Peltason, Jack W. *Understanding the Constitution*, pp. xvi+228; *Teacher's Manual To Accompany "Understanding the Constitution"*, pp. 40. New York 19: Dryden Press, 1958 (revised).
- Eisman, Louis and Tanzer, Charles. *Biology and Human Progress*. Englewood Cliffs, New Jersey: Prentice-Hall, 1958 (second edition). Pp. xvi+544. \$4.80.
- Goodwin, Geoffrey L. *Britain and the United Nations*. National Studies on International Organization. New York 12: Manhattan Publishing Co., 1957. Pp. xiv+478. \$3.00.
- Hill, T. H. Ward. *Mathematics for the Layman*. New York 16: Philosophical Library, 1958. Pp. 344. \$4.75.
- Jaffe, Bernard. *Chemical Calculations: A Systematic Presentation of the Solution of Type Problems*. Yonkers 5, New York: World Book Co., 1958 (third edition). Pp. xii+180.
- Japan and the United Nations*. National Studies on International Organization. New York 12: Manhattan Publishing Co., 1958. Pp. xvi+246. \$3.00.
- Jewett, Arno, and Others. *Literature for Life*. Boston 7: Houghton Mifflin Co., 1958. Pp. x+726. \$4.20.
- Kent, Willys Peck. *A Book of Descants*. New York 1: Vantage Press, 1958. Pp. 94.
- Lott, George M. *The Story of Human Emotions from a Teen Age Viewpoint*. New York 16: Philosophical Library, 1958. Pp. 228. \$4.95.
- McDermott, Irene E., and Nicholas, Florence W. *Homemaking for Teen-Agers, Book 2*. Peoria, Illinois: Chas. A. Bennett Co., 1958. Pp. 704.
- MacFarlan, Allan A. *More New Games for Tween-Agers*. New York 7: Association Press, 1958. Pp. xii+238. \$3.50.
- Moore, Clyde B., and Others. *Building Our America*, pp. xii+468, \$3.28; *Building Our Communities*, pp. vii+312, \$2.64. New York 17: Charles Scribner's Sons, 1958 (revised).
- Norbeck, Oscar E. *Book of Indian Life Crafts*. New York 7: Association Press, 1958. Pp. 254. \$5.95.
- Pangborn, Mark W., Jr. *Earth for the Layman*. AGI Report 2. Washington 25: American Geological Institute, 1957. Pp. iv+68. \$1.00.
- Public Affairs Pamphlets: No. 264, *Your Child's Emotional Health* by Anna W. M. Wolf, pp. 30; No. 266, *Worrying about College* by Fred M. Hechinger, pp. 28. New York 16: Public Affairs Committee, 1958. \$0.25 each.
- Reading Skill Builders Series: *Advanced Reading Skill Builder, Books One to Four*. Pleasantville, New York: Reader's Digest Educational Department, 1958. Pp. 160 each. \$0.80 each.
- Rienow, Robert. *American Problems Today*. Boston 16: D. C. Heath & Co., 1958 (second edition). Pp. xx+714. \$4.80.
- Robertson, Lynn S. *Farm Management*. Philadelphia 5: J. B. Lippincott Co., 1958. Pp. xvi+446.
- Shakespeare for Young Actors*. Edited by Eleanor Patmore Young. New York 16: Exposition Press, 1957. Pp. 284. \$4.50.
- Sherbourne, Julia Florence. *Toward Reading Comprehension*. Boston 16: D. C. Heath & Co., 1958. Pp. 238. \$2.75.
- Smith, Nila Banton. *Be a Better Reader: Book I, Skill Development in Reading*. Englewood Cliffs, New Jersey: Prentice-Hall, 1958. Pp. 128. \$1.32.
- Starratt, Edith E., and Others. *Our American Government Today*. Englewood Cliffs, New Jersey: Prentice-Hall, 1958. Pp. x+516. \$4.48.

- Teen-Age Tales*: Book 6 by Ruth Strang and Amelia Melnik. Boston 16: D. C. Heath & Co., 1958. Pp. x+248. \$2.56.
- A Treasury of Christmas Plays*. Edited by Sylvia E. Kamerman. Boston 16: Plays, 1958. Pp. 510. \$5.00.
- Vance, B. B. and Miller, D. F. *Biology for You*. Philadelphia 5: J. B. Lippincott Co., 1958 (fourth edition). Pp. x+654. \$4.80.
- Wallbank, T. Walter, and Fletcher, Arnold. *Living World History*. Chicago 11: Scott, Foresman & Co., 1958. Pp. 768. \$4.88.
- Weinland, James D. *How To Improve Your Memory*. New York 3: Barnes & Noble, 1957. Pp. x+150. \$1.00.
- West, Paul V. *Better Handwriting*. New York 3: Barnes & Noble, 1958. Pp. viii+102. \$1.00.
- Woodford, Albert M. *Jet Mathematics*. New York 14: Comet Press, 1958. Pp. 30. \$2.00.

Pamphlets

- Allerton House Conference on Education. *Report on the Teaching of Science in Illinois: Group IV: Physical and Biological Sciences*. Urbana, Illinois: Allerton House Conference on Education, University of Illinois (204 Gregory Hall), 1957. Pp. xvi+34.
- Bethpage, New York: *A Study in Faulty Human Relations*. Report of an Investigation. Washington 6: National Commission for the Defense of Democracy through Education, National Education Association, 1958. Pp. 40.
- Britton, Edward C., and Winans, J. Merritt. *Growing from Infancy to Adulthood: A Summary of the Changing Characteristics of Children and Youth*. New York 1: Appleton-Century-Crofts, 1958. Pp. x+118. \$1.10.
- Bryne, The Reverend John T. *A Study of Student Problems in Catholic Mens Colleges*. Washington 17: Catholic University of America Press, 1957. Pp. xii+116. \$1.50.
- Chall, Jeanne S. *Readability: An Appraisal of Research and Application*. Columbus 10: Ohio State University, 1958. Pp. xiv+202. \$4.00 cloth. \$3.00 paper.
- Childs, John L. *An Assessment of the Experimentalist Educational Theory*. Columbus 10: College of Education, Ohio State University, 1958. Pp. 34. \$1.00.
- Cincinnati Public Schools. Curriculum Bulletins: No. 2, *General Mathematics: Junior High School, Grade 9*, pp. x+108; No. 3, *Algebra One: Junior High School, Grade 9*, pp. vi+74; No. 13, *World Geography, Grade 9 and 10*, pp. x+262; No. 22, *General Science, Grade 9*, pp. viii+268; No. 50, *Art Education, Grades 7, 8, and 9*, pp. vi+170; No. 242, *Junior High School Dramatics, Grade 9*, pp. vi+68; Cincinnati 6: Public Schools, 1957, 1958.
- Driver Instruction: A Guide for Driver Education and Driver Training*. Sacramento, California: State Department of Education, 1958 (revised). Pp. viii+96.
- Education in the Next Decade*. Bulletin of the Bureau of School Service, College of Education, University of Kentucky, Vol. XXX, No. 3. Lexington: College of Education, University of Kentucky, 1958. Pp. 96. \$1.00.
- The Ford Foundation and St. Louis*. New York 22: Ford Foundation, [n.d.]. Pp. 64.
- Guides-to the Improvement of State School Finance Programs*. Washington 6: National Education Association, 1958. Pp. 32.
- Handbook on Parent Teacher Education*. Bulletin of the California State Department of Education, Vol. XXVII, No. 3. Sacramento, California: State Department of Education, 1958 (revised). Pp. viii+86.
- Hock, Louise E. *Using Committees in the Classroom*. New York 16: Rinehart & Co., 1958. viii+56. \$1.00.
- Hoey, Sister Ann Francis. *A Comparative Study of the Problems and Guidance Resources of Catholic College Women*. Washington 17: Catholic University of America Press, 1957. Pp. xii+220. \$2.50.
- Hurd, Blair E. *Securing and Keeping Good Teachers in California Public Schools*. Bulletin of the California State Department of Education, Vol. XXVII, No. 2. Sacramento 4, California: State Department of Education, 1958. Pp. x+46.

- Improving Science Programs in Illinois Schools.* Edited by William O. Stanley, Harry S. Broudy, and R. Will Burnett. Urbana: University of Illinois, 1958. Pp. 88.
- The In-Service Training of Science Teachers.* Brooklyn 1: Division of Junior High Schools and Division of Curriculum Development, Board of Education of the City of New York, 1958. Pp. 68. \$0.60.
- Long-Range Planning for Education.* A Report of the Twenty-second Educational Conference, New York City, October 31 and November 1, 1957. Edited by Arthur E. Traxler. Washington: American Council on Education, 1958. Pp. x+186. \$2.00.
- MacBean, Dilla W. *Your Career as a Librarian.* Chicago 11: Educational Department, Encyclopaedia Britannica, 1958. Pp. 18. \$0.10.
- Martin, Clyde Inez. *A Venture in International Understanding.* Bureau of Laboratory Schools, Publication No. 9. Austin 14: University of Texas, 1958. Pp. vi+152. \$2.00.
- Monroe, Michigan: *A Study of a Dismissal Involving Responsibility for Criticism of Proposed School Policies.* Report of an Investigation. Washington 6: National Commission for the Defense of Democracy through Education, National Education Association, 1958. Pp. 34.
- Moore, Sister M. Alice Joseph. *Catholic College Student Retention in the United States.* Washington 17: Catholic University of America Press, 1957. Pp. xii+156. \$1.75.
- The Museum and the Artist.* Principles and Procedures Recommended by the Joint Artists-Museums Committee. New York 28: American Federation of Arts, 1958. Pp. 30.
- "1957 Fall Testing Program in Independent Schools and Supplementary Studies." Educational Records Bulletin, No. 71. New York 32: Educational Records Bureau, 1958. Pp. xii+64 (processed).
- The Philosophical and Social Framework of Education.* Review of Educational Research, Vol. XXVIII, No. 1. Washington 6: American Educational Research Association, 1958. Pp. 76. \$2.00.
- Pires, E. A. *Evaluative Criteria for Teachers' Colleges.* C. I. E. Publications, No. 22. Delhi 8, India: Central Institute of Education (33, Probyn Road), 1958. Pp. 16.
- Price, Hugh G. *California Public Junior Colleges.* Bulletin of the California State Department of Education, Vol. XXVII, No. 1. Sacramento 4, California: State Department of Education, 1958. Pp. viii+104.
- The Road Toll.* The Travelers 1958 Book of Street and Highway Accident Data. Hartford, Connecticut: Public Information Department, Travelers Insurance Companies, 1958. Pp. 30.
- Rush, N. Orwin, and Kilzer, Louis R. "A Book and Magazine List for High-School Libraries." Laramie, Wyoming: Curriculum and Research Center, College of Education, University of Wyoming, 1958. Pp. 48. \$1.00.
- Specific Language Disabilities.* Selected Papers Presented by Members of the Orton Society at Its Annual Meetings, 1950-1955. Compiled and edited by June Lyday Orton and Ruth S. Livingston. Bulletin of the Orton Society, Vol. VI. Waterbury, Connecticut: Orton Society (515 Willow Street). Pp. xii+88. \$2.00.
- Strom, Ingrid M. *The Role of Literature in the Core Curriculum.* Bulletin of the School of Education, Indiana University, Vol. XXXIV, No. 3. Bloomington: Division of Research and Field Services, Indiana University, 1958. Pp. vi+60. \$1.00.
- The Study of Religion in the Public Schools: An Appraisal.* Report of a Conference on Religion and Public Education. Edited by Nicholas C. Brown. Washington 6: American Council on Education, 1958. Pp. xiv+230. \$2.50.
- Teacher Supply and Demand in Colleges and Universities, 1955-56 and 1956-57.* Washington 6: Research Division, National Education Association, 1957. Pp. 76.
- Terrell, William B. *Standards for Survey of Reading Material in Public Schools-Including Survey Score Form.* Houston 4, Texas: Gulf School Research Development Association, 1958. Pp. iv+80. \$1.25.
- Thomas Alva Edison Foundation. *The Balance Sheet on Education: Europe, Russia, United States* by Rear Admiral H. G. Rickover, pp. 32; *The Oklahoma Science Education Story* by James G. Harlow and Lyle M. Spencer, pp. 20; *The Indianapolis*

Science Education Story by Paul E. Johnson and Newton G. Sprague, pp. 20; *The Detroit Science Education Story* by Samuel M. Brownell, pp. 20. New York 18: Thomas Alva Edison Foundation, Inc., 1957.

UNITED NATIONS:

Helping Economic Development in Asia and the Far East: The Work of ECAFE. 1957 (third edition). Pp. 34. \$0.15.

Study of Discrimination in Education by Charles D. Ammoon. 1957. Pp. viii+182. \$1.25.

United Nations Work for Human Rights. 1957 (second edition). Pp. 36. \$0.15.

U.S. OFFICE OF EDUCATION:

Bulletin 1957, No. 11—*Teachers of Children Who Are Socially and Emotionally Mal-adjusted: A Report Based on Findings from the Study "Qualification and Preparation of Teachers of Exceptional Children."* Pp. xii+92. \$0.45.

Bulletin 1957, No. 19—*Speech Correctionists: The Competencies They Need for the Work They Do.* Pp. x+78. \$0.45.

Bulletin 1958, No. 1—*Retention and Withdrawal of College Students.* Pp. xvi+178. \$0.65.

Bulletin 1958, No. 2—*Statistics of Land-Grant Colleges and Universities, Year Ended June 30, 1956.* Pp. vi+110. \$0.50.

Bulletin 1958, No. 7—*Analysis of Research in the Teaching of Science, July 1955-July 1956.* Pp. vi+56. \$0.25.

Bulletin 1958, No. 10—*State Plans under the Library Services Act: A Summary of Plans and Programs for Fiscal 1957 Submitted under Public Law 597, 84th Congress.* Pp. viii+84. \$0.30.

Circular No. 510, 1958—"The Beginning Teacher: A Survey of New Teachers in the Public Schools, 1956-57: Preliminary Report." Pp. x+56 (processed). \$0.40.

Circular No. 513 Revised, 1958—"Fall 1957 Statistics on Enrolment, Teachers, and Schoolhousing in Full-Time Public Elementary and Secondary Day Schools." Pp. 14 (processed). \$0.15.

Circular No. 514, 1958—"Faculty, Students, and Degrees in Institutions of Higher Education: Statistical Summary, 1955-56." Pp. 12 (processed).

Circular No. 517, 1958—"Higher Education Planning and Management Data 1957-58: Salaries, Fringe Benefits, Tuition and Fees, Room and Board." Pp. vi+102 (processed). \$0.60.

Circular No. 518, 1958—"Opening Enrolment in Higher Educational Institutions: Fall 1957." Pp. vi+48. \$0.40.

Circular No. 523, 1958—"Advance Statistics of County-Unit School Systems, 1955-56." Pp. 10.

Education Directory, 1957-58: Part 2, Counties and Cities, pp. 102, \$0.45; *Part 3, Higher Education,* pp. 190, \$0.65.

Misc. No. 28, 1958—*The State and Nonpublic Schools: with Particular Reference to Responsibility . . . of State Departments of Education.* Pp. viii+152. \$1.25.

Misc. No. 29, 1958—*School Finance and School Business Management.* Pp. vi+78. \$0.60.

1958-59 *Teacher Exchange Opportunities.* Pp. iv+30. 1957.

Pamphlet No. 121, 1957—*Local Planning for Better School Districts.* Pp. iv+20. \$0.15.

Miscellaneous

Jahn, Raymond. *Concise Dictionary of Holidays.* New York 16: Philosophical Library, 1958. Pp. 102. \$5.00.

Laves, Walter H. C., and Thomson, Charles A. *UNESCO: Purpose, Progress, Prospects.* Bloomington: Indiana University Press, 1957. Pp. xxvi+470. \$7.50.

Smith, Robert Paul. *Translations from the English.* New York: Simon & Schuster, 1958. Pp. 58. \$1.95.

The
18:

FE.

182.

Mal-
pa-

the

178.

ded

55-

y of
con-

the

and
. 14

gher

57-

102

ons:

55-

t 3,

e to

-78.

-20.

ary,

ects.

958.